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JUNE 18, 1927.

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2
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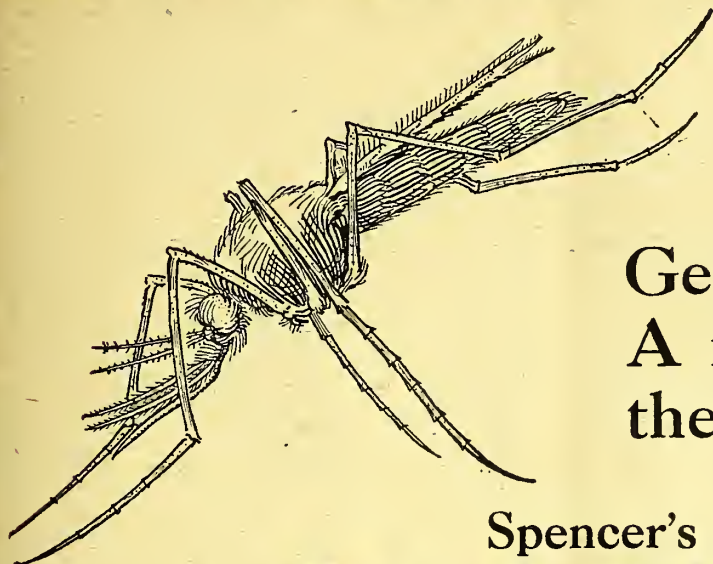
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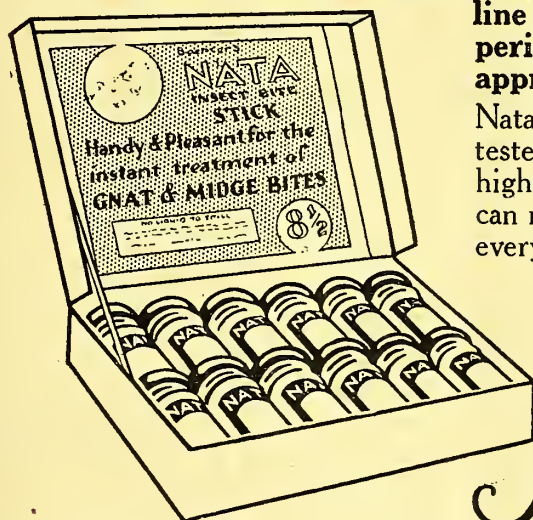
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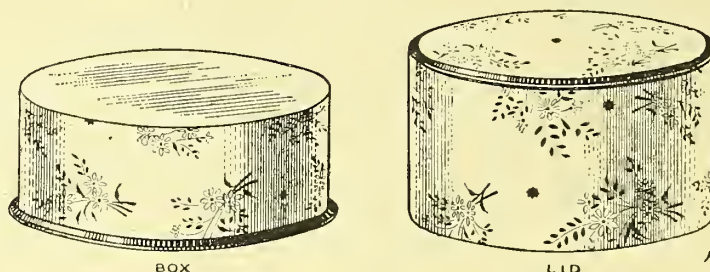
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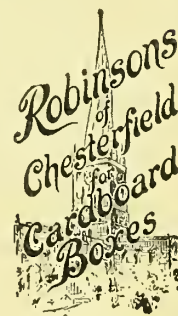
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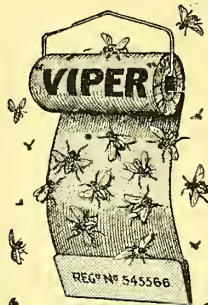
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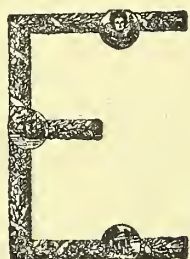
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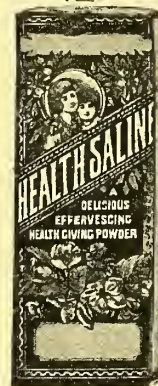
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16-18 Beak Street, REGENT STREET, W.1

Telephone: Regent 3825

Maw's



Page

New Ideas for Puffs



Maw's are concentrating attention on powder puffs. Not only are they introducing new and attractive patterns, for Maw's are actual manufacturers of puffs, but they are also devising new means of presentation and display which are helping the pharmacist to win for himself an appreciable share of puff business. Here is a new idea that will help you to sell handkerchief puffs.

The outer case is strongly made and contains three separate trays. Each tray contains four boxes and each box contains a handkerchief puff of new and attractive design. The advantages of this case are that your stock is fully protected, that you can show the whole collection simultaneously and that you can hand your customer the puff purchased, neatly packed in its own box, without an instant's delay. Two selections of puffs, one for high-class, one for middle-class trade, are offered with the case and the trays are marked with prices according to quality.

Case No. 1.

Containing 12 down-centre Handkerchief Puffs, numbers as quoted below.				Dozen prices are given.	
Top Tray	2/4042A	2/4042B	2/4042J	2/4042A	
Per dozen	36/-	68/-	48/-	36/-	
Middle Tray	2/4042C	2/4042D	2/4042E	2/4042F	
Per dozen	36/-	48/-	40/-	28/-	
Bottom Tray	2/4042L	2/4042H	2/4042G	2/4042K	
Per dozen	40/-	40/-	40/-	40/-	
Total cost of contents				41/8	
Selling value of contents				62/6	
Part cost of display case				5/-	
Case, if empty				10/6	

Case No. 2.

Containing 12 down-centre Handkerchief Puffs. Four each of three types.				Dozen prices are quoted.	
Top Tray. —Assorted Jazz Silk Handkerchiefs	..	..	..	..	Per dozen 15/-
Middle Tray. —Assorted Jazz Crepe Handkerchiefs	..	..	..	..	19/6
Bottom Tray. —Super hemmed Crepe Handkerchiefs, best quality centres	..	..	..	..	28/-
Total cost of contents				20/10	
Selling value of contents				32/-	
Part cost of case				4/2	
Case, if empty				9/6	

S. Maw, Son & Sons, Ltd.,
Aldersgate St., London,
and Barnet.



ROSES

LILIES

LILAC

*... the Flowers that Bloom
in the Spring, tra-la-la*

WALLFLOWERS

VIOLETS

ORANGE FLOWERS

To obtain their perfumes in their most exquisite fragrance, send for samples to

ESSENCES & SYNTHETICS, LIMITED

4 CARLISLE AVENUE, E.C.3

Established 1795.

LAUTIER FILS

Works : GRASSE (France) & BEYRUT (Syria).

Essential Oils ——— Synthetics.
All Raw Materials for Perfumery.

Absinth	Laurel
Almond, bitter,	Lavender
Angelica [S.A.P.]	Lemon
Basil	Mace
Bay	Mellssa
Bergamot	Neroli big and Syn.
Bols de Rose femelle	Orange
Cajuput	Otto de Rose
Caraway	Patchouli
Cinnamon	Peppermint
Cloves	Rosemary
Copalba	Rue
Costus	Sandalwood
Cubeb	Spike Lavender
Fenel	Tansy
Geranium	Taragon
Honey	Thyme
Hyssop	Vetivert

Olive, Peach Kernel, Sweet Almond Oils
Floral Waters.

Wholesale and Export only.

LAUTIER FILS, Ltd., 4 Denman St., London Bdg., S.E.1
Tel. Add.: "LAUTIER, PHONE, LONDON." Telephone: HOP 2819.

ARTIFICIAL OTTO OF ROSE VIVUS BRAND

(Free from ALCOHOL)

Specially manufactured by our new process.
Equal in STRENGTH, PERFUME and
QUALITY to the GENUINE OTTO.

VIVUS FIXATORS for PERFUMES
and BEAUTY PREPARATIONS,
AMBRE LIQUID, ROSIFIX,
VIOFIX 127, EAU DE COLOGNE,
LAVENDER, LILY, FLEUROL.

VIVUS BRAND

SOAP COMPOUNDS, PERFUMES
FOR FACE CREAMS, POWDERS,
BATH SALTS and BRILLANTINES.

Write for our new PRICE LIST.

D. & J. MISELL

15 COOPERS ROW - - LONDON, E.C.3

BARGAINS !

The implication of the word BARGAIN is often forgotten or not carefully considered in its commonplace usage.

BAR GAIN, that is, without profit, in other words, *at cost* or less.

And under this category falls A SMALL STOCK of our Powder Bowls, Perfume Sprays and Fancy Combs, which must be cleared to make room for our new season's lines.

If you are really interested in putting through a profitable transaction, write to us for particulars.

BRIDGEN & GRIFFIN

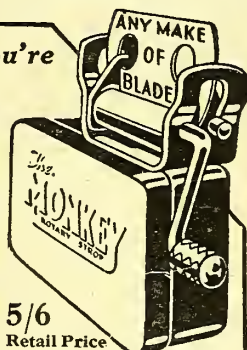
25 BARTLETT'S BUILDINGS, HOLBORN CIRCUS, E.C.4

If you don't stock it—you're money out-of-pocket.

This famous little device, quite the best form of stropper on the market to-day, makes a strong appeal on account of its low price. In its handsome nickelled case it only needs to be displayed on your counter to sell by the dozen—and every sale means 1/9 profit!

Sales matter and particulars of this and other fast-moving Douglas Kirby lines on request. Obtainable from your usual wholesaler, or direct.

Complete range of factorial lines. Write for list.



5/6
Retail Price

DOUGLAS KIRBY & CO., LTD., 9/10 CHARING CROSS, LONDON, S.W.1.
Telephone: Gerrard 3147, 8063/4/5.
Glasgow - - - 47 Oswald Street, C.I.

GALJADO HAIR COLOUR RESTORER

For Grey or Faded Hair.

A preparation which sells on its merits. Non-injurious.

In two sizes:

Retail: 2/- and 3/6 per bottle.

Trade: 12/- and 22/- per dozen.

TRIAL DOZEN SENT POST FREE.

Cash with order.

Note the Profit.

Of all Wholesalers or direct.



THE GALJADO PERFUMERY CO. Ltd.
93 Worship Street, London, E.C.2.

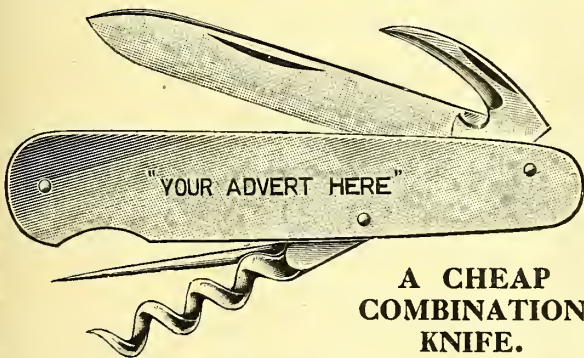
Extract from "The Ironmonger,"
January 22, 1927.

What is described as a Traveller's Combination Knife, shown in the illustration, is an addition to a list of cutlery wares made by Mr. G. H. Lawrence which competes with foreign goods in price as well as quality. This pattern is unquestionably the cheapest knife of its kind of Sheffield make that has ever been offered to the public. Of full size, it combines Blade, Corkscrew, "Crown" Cork Opener, Champagne Wire Cutter and Cigar Probe, and has Nickel-Silver Handles. The small blade, serving the double purpose of drawing corks and cutting wire, is a serviceable tool.

Wholesale and Shippers Only.

GEO. H. LAWRENCE,
32 EYRE STREET, SHEFFIELD.

Also Manufacturer of
LAUREL SAFETY RAZOR BLADES.



**A CHEAP
COMBINATION
KNIFE.**

INSECT BITE STICK

Be prepared for the Mosquito Plague
which is expected this summer



MADE IN TWO SIZES

Small - - 5/- per dozen

Large - - 8/- per dozen

Small Size in Show Case of 12

Large Size " " " " 6

Customer's name free on 3 dozen of a size.

MANUFACTURED ONLY BY

WILLIAM TOOGOOD LTD.

77 SOUTHWARK STREET, S.E.1

SPONGES

A REAL OPPORTUNITY for directly consigned Sponges which have not been Chemically cleaned nor artificially swollen. Our sixth large direct parcel this season shows

OUTSTANDING VALUE

with an abundance of small pieces which the Chemist finds so difficult to secure.

HONEYCOMB

5,000 pieces at	...	3/6 dozen.	Good seconds
6,500	"	4/6	" "
2,500	"	6/6	" "
3,000	"	7/6	" "
3,600	"	9/-	" "
2,000	"	12/-	" "
1,050	"	18/-	" "
1,000	"	20/-	" "
600	"	21/-	First quality shapes
750	"	30/-	Good seconds
250	"	36/-	First quality
500	"	36/-	Good seconds
450	"	42/-	Large seconds
400	"	48/-	" "
200	"	45/-	First shapes
300	"	54/-	" "
560	"	72/-	Large bath size
120	"	84/-	Extra large firsts
150	"	84/-	First shapes
90	"	12/- each	Extra large first quality bath size

CUT HONEYCOMB for MOTORS, etc.

1,400 pieces at	...	...	...	...	2/- each
1,300	"	...	...	...	3/- "
1,200	"	...	...	...	3/9 "
1,200	"	...	...	...	4/6 "

AYRTON, SAUNDERS & CO., LTD.

34 HANOVER STREET
LIVERPOOL

Telegrams: "SUNDRIES, LIVERPOOL."

Telephone: ROYAL 4861.

Codes: A.B.C., LIEBER, BENTLEY and PRIVATE.



YOU RECOMMEND WOOLLEY'S LYSOL WITH CONFIDENCE AND ENTHUSIASM

WOOLLEY'S LYSOL is a powerful Antiseptic Disinfectant, containing 50% of active Cresols; it is practically free from Carbolic Acid, but as a Bactericide it is fully $2\frac{1}{2}$ times as strong.

It is soluble in all proportions in water, alcohol, chloroform and ether, forming a clear Disinfectant Fluid, which does not attack the tissues nor cause smarting.

It is penetrating, deodorant, does not corrode instruments and is not destructive to clothing. Diluted with water Woolley's LYSOL forms a soothing and healing lotion. Being concentrated it is economical and inexpensive, and its great value is recognised by medical men all over the country.

Woolley's Lysol can be used under all circumstances where a safe but effective disinfectant is required.

It gives satisfaction to the customer and the reduced prices show an incomparable return to the retailer.



Reduced Prices

4 oz.	8 oz.	16 oz.	32 oz.	$\frac{1}{2}$ gall.	1 gall.
6/-	10/-	17/-	27/6	51/-	84/- per dozen.
5/6	9/-	15/6	25/-	2 gross 4 oz. size or equivalent.	

Carriage Paid on £5 orders.

JAMES WOOLLEY, SONS & Co., Ltd.
MANUFACTURING CHEMISTS, MANCHESTER

It pays to *SPECIALISE* in

"Mineral Spring"

*The Chemists' Own
Effervescible*

REPEAT sales come to you because "Mineral Spring" is not supplied to grocers or miscellaneous dealers. It is essentially a pharmaceutical product which well repays your special interest. The 1927 Window Display is now being sent out with orders for 4 dozen and upwards. Coloured illustration post free on request.

Kerfoot Quality is Chemists' Quality

TRADE TERMS

1/- size 8/- dozen
2/- size 16/- dozen
One gross orders (assorted if desired)
7/9 dozen & 15/6 dozen respectively



THOMAS KERFOOT & CO. LTD.
BARDSLEY VALE, LANCASHIRE,
& Bardsley House, London, N.1
ESTABLISHED 1797.

B/912

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Good selling toothbrushes with good profits

Another big carefully planned advertising campaign is bringing HALEX Toothbrushes to the notice of the public.

The result of this campaign is an increasing demand for a purely BRITISH MADE Toothbrush of the finest quality—at a reasonable price.

HALEX Toothbrushes are sold to the public at prices ranging from 9d. to 2s. A very good margin of profit is left for you.

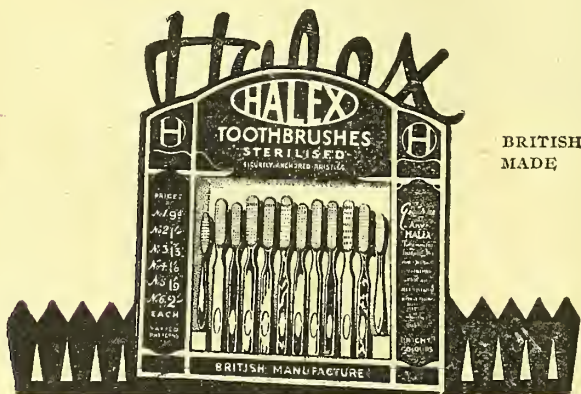
Send for this Special Introductory Parcel!

The Parcel contains—(a) A handsome glass-fronted display case containing 12 Halex brushes (two of each pattern); (b) Three dozen Halex brushes in six handy boxes—making four dozen brushes in all; (c) A supply of specially designed envelopes for handing Halex toothbrushes to your customers; (d) A showcard for window display.

Order direct from your usual wholesaler, price

PROFIT 60% on cost

40/-



THE BRITISH XYLONITE Co. Ltd., HALE END, LONDON, E.4

YOUR

Part in the

"COMING FASHIONS"

Selling Scheme

ONLY NOTICE!

IN the July issue of *Coming Fashions* (on sale last week in June) there appears a page advertisement of "**Pour le Boulevard**" Face Powder. This Powder is made by the makers of BONCILLA, the modern Beautifier, and is absolutely unique in that it carries its own Vanishing Cream.

To introduce "**Pour le Boulevard**" to readers of *Coming Fashions* we are distributing a free sample with every copy. We offer a £5 prize to the writer of the best letter about its virtues, and attractive gifts to the sender of every letter. Finally, we put in a Coupon entitling the holder to get a full size 4/6 box for 3/-.

We are confident that this will lay the foundation of a big business in this super-fine Powder. Will you please help us to make a start? We guarantee, of course, to give you the full profit on every box you sell under the Coupon scheme for 3/- instead of 4/6. Simply send all the Coupons to us.

The Price of "**Pour le Boulevard**" is:

36/- per dozen boxes

4/6 per box, P.A.T.A.

LOSE NO TIME.

Order through your usual Wholesaler or from:
BONCILLA LABORATORIES
211-215 Blackfriars Road, London, S.E.1

MERCOLIZED WAX

— : for the Complexion : —

and

STALLAX

— : a Shampoo : —

TWO substantial and well-advertised lines which show a handsome profit to the Retailer, and, moreover, may be stocked fearlessly owing to the Manufacturers' most liberal Sale or Return Guarantee.

Both are obtainable in two sizes, and their reputation and sterling value assure a steady turnover.

Order through your Wholesaler, or direct from:

DEARBORN (1923) LIMITED
37 GRAY'S INN ROAD, LONDON, W.C.1.

"Old Common Sense"



An illustration from

"The Treasure Cave"

Don't disappoint customers who ask for a copy of this children's booklet when they buy Calvert's Carbolic Tooth Powder.

If your supply is exhausted please apply for more to F. C. CALVERT & CO., P.O. Box 147, Manchester.



BORONIA

THE NEW PERFUME FROM THE AUSTRALIAN FORESTS WHICH HAS PROVED SUCH A SUCCESS ON THE CONTINENT.

Sample Size 1/3 10/- Doz.
 (10% for Window Display on Direct Orders).

E. N. BROMAGE & CO.
 Perfumers and Importers,
 73 SELHURST ROAD, LONDON, S.E.25.

ESSENCES FRUIT AND ARTIFICIAL

Inquiries are specially invited for the following:—

VANILLA from Selected Beans.

VANILLA from Vanillin.

PEPPERMINT—B.P. Oil.

PINEAPPLE—Artificial.

RASPBERRY—Fruit and Artificial

E. H. BUTLER & SON MANUFACTURING CHEMISTS —
 Humberstone Gate - - LEICESTER

IT PAYS to Recommend ARMAND

Send for latest list
and particulars of
Armand Advertising.

Florian & Armand
Limited
QUEENSWAY, PONDER'S END
MIDDLESEX.



THE ORIGINAL
:: AND ::
STILL THE BEST

JACKEL'S
CREAM
FOR THE HAIR

SOLD EVERYWHERE.

1/9 PER BOTTLE 2/6

Jackel's Cream has now been over 40 years on the market and enjoys a steady reliable sale. Once a customer buys Jackel's, imitations have no appeal because Jackel's is still the best.

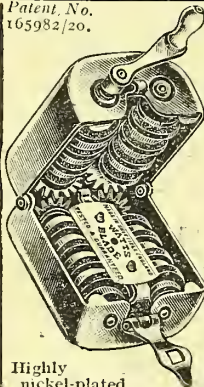
HOW ARE YOUR STOCKS AT PRESENT?

12/- and 18/- per dozen.
Retailing at 1/9 & 2/6 per bot.

SHOWCARDS AND PARTICULARS FROM
YOUR WHOLESALE HOUSE.

JACKEL et CIE (of Paris) Ltd.
GLASGOW.

Patent No.
165982/20.



A REMARKABLE BRITISH INVENTION

THE
"SPIRO"

SAFETY RAZOR BLADE SHARPENER.

Every user of the "Watts" Safety Razor
Blades is a potential purchaser.

STRONG AND SIMPLE

No troublesome fixing. Drop blade on
two pegs, close box, turn handle and
— get a super-keen blade in a moment. —

Retails at 21/- each.

Suitable for any Gillette Type or
Watts Auto Strip Type Blades.

Allowing 50% profit on cost for the dealer.

Sole Manufacturers:

JOHN WATTS, Lambert Works, SHEFFIELD.

London Office & Showroom:

18 Soho Square, W.1. 'Phone: Gerrard 1306

Highly
nickel-plated.

Why not an "Oddment"
or "Yellow Ticket"
Sale

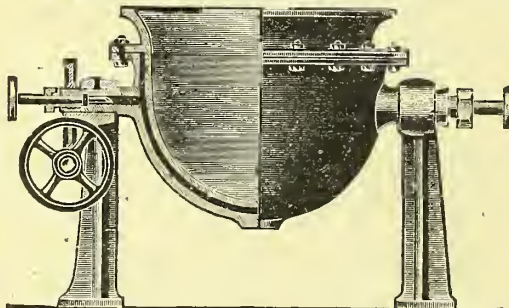
to clear those "job" lines?

List No CD. 979 of Tickets and Posters
specially prepared for this purpose sent
free on request

Dudley & Company, Limited,
558/576, Holloway Rd London. N.7

City Showrooms: 65, Fore St. E.C.2

ENAMELLED IRON APPARATUS



Suitable for all Temperatures and Pressures

DANTO ROGEAT & CIE,
33-39 Chemin des Culattes, LYONS, France.

Suppliers before the war to the largest European
Manufacturers of Chemical Products.

Write for Price List to Sole Representative:

H. SLOOG, 45 Great Marlborough Street,
Telep.: Regent 2400. LONDON. W.1.

NEPTUNE Swimming Bar FREE!

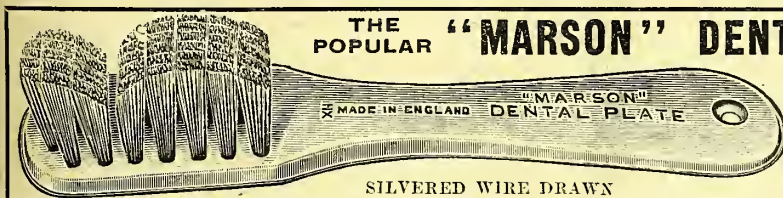
Get in your supply of NEPTUNE SWIMMING BARS now. There's no time to be lost—the NEPTUNE is a seasonal line—something new that will make a big appeal to holiday makers. Window bills and leaflets for distribution are now available free with the NEPTUNE BAR, which

can be supplied, C.O.D., singly at 5/- to retail at 7/6; or in other quantities as required. Six bars are packed in a box 36" x 7½" x 3¼" for ease of despatch. Every day now means business lost if you haven't your supply of NEPTUNE BARS. Don't delay any longer, send in your order to-day!

To introduce the NEPTUNE BAR we shall be pleased to send a sample lot of three for 15/-, carriage paid; and out of the first box of 6 you buy, one will be credited, provided you send us a receipt from your customer to whom you gave the bar. He should be a person who would be likely to make the best use of it.



BRITISH MADE BY
LINES BROS., LTD.,
Dept. S.5,
Merton, London, S.W.19.
(Phone: Wimbledon 3067.)



THE POPULAR "MARSON" DENTAL PLATE BRUSH

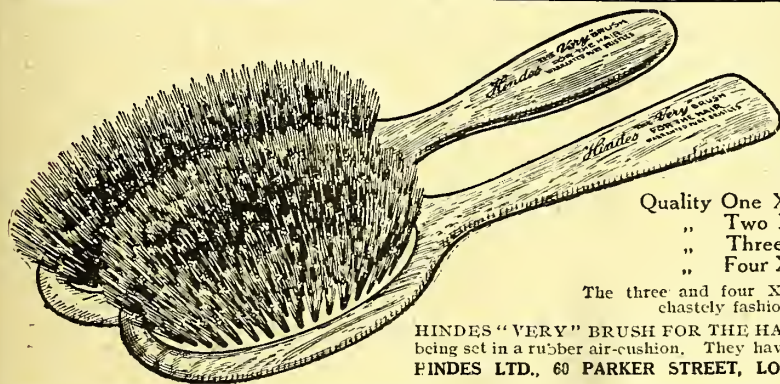
IN STIFF UNBLEACHED BRISTLE
Best English Make. Packed in Cartons.
SAMPLES AND PRICES ON APPLICATION

C. F. MARSHALL & SON
Devonshire Works, Devonshire Rd.,
HACKNEY - LONDON, E.9

SILVERED WIRE DRAWN

"Wimaco" Specialities, British and Best. Sole Agents for ANTISEMAL, send for Descriptive Booklet

INSIST ON WIMACO MONARCH SEAL BRAND (Regd.). THERE IS NO SUBSTITUTE FOR WIMACO.
WINCHESTER MANUFACTURING CO., LTD., ISLEWORTH, MIDDLESEX



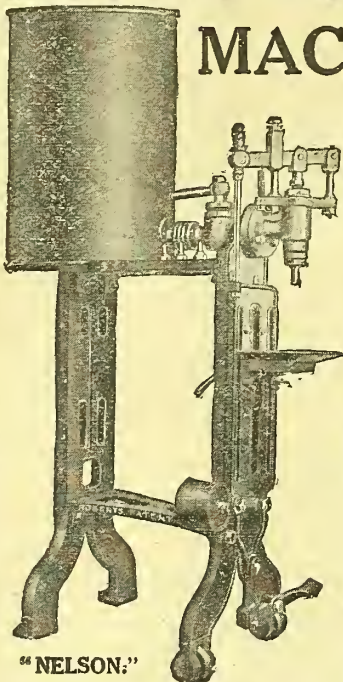
HINDES "VERY" HAIR BRUSH

Quality	One X	Sold at	7/6d. each.	TRADE PRICE 33½%
"	Two XX	"	10/6d. "	
"	Three XXX	"	15/- "	
"	Four XXXX	"	18/6d. "	

The three and four XXXX grade is made in Ebony or Rosewood chastely fashioned in both oval and circular bodies.

HINDES "VERY" BRUSH FOR THE HAIR is guaranteed pure bristles, the multiple tufts being set in a rubber air-cushion. They have been known to the trade for nearly 40 years.
HINDES LTD., 60 PARKER STREET, LONDON, W.C.2. :: Works: BIRMINGHAM

ROBERTS' ORIGINAL PATENT BOTTLE-FILLING MACHINES



"NELSON:"

Don't waste money on imitations, buy Roberts' Machines which actually Created the Records for

**CLEANLINESS
SIMPLICITY**
and Rapidity in
Bottle Filling.

Write for new
Price Lists.

NOTE the Address :
**ROBERTS' PATENT
FILLING MACHINE CO.
33 ROUNDCROFT ST.
BOLTON.**

Our latest patent
"Alpha," price £12,
will fill 10 gross bottles
per hour.

Write for Particulars.
All Rights Reserved.

Turn the FLIES into PROFIT

Every summer brings its pest of flies, and your customers are anxious to find some quick, sanitary means of destroying them.

The "WASP" Flyband meets this need. It is most effective, retains its freshness, and always satisfies your customers.

Stock the "WASP" and let it bring you profit.

The WASP Flyband

Manufactured by
F. W. HAMPSHIRE
& CO. LTD.
Riverside Works,
Derby.

SANTONIN B.P. 14

The ONLY SPECIFIC for

WORMS

in Humans and Domesticated Animals.

Investigations by the greatest medical and veterinary authorities throughout the world confirm the unique efficacy and safety of Santonin.

Write for FREE copies of the latest veterinary literature :-

"Worms in Dogs & their Treatment."

"Worms in Pigs & their Treatment."

These booklets are an indispensable guide to Pharmacists who cater for the ever-increasing veterinary demand for Santonin.

Prices on Application.

The Eastern & Russian Trading Co.

- LIMITED -

26 FINSBURY SQUARE LONDON, E.C.2

'Phone : Clerkenwell 1638-9. Tele. : "Ertcosanto, Finsquare, London."

Exclusive Official Distributors to the Whole World for the U.S.S.R.



Ask for "PAZO"

PILL BOXES

The most convenient and secure Pill Box obtainable.

NO LOOSE BOTTOMS

Samples and Prices on application

The "PAZO" CO., Oldbury

LADDERS, STEPS, TRESTLES, TRUCKS HEATHMAN,

35, Aldersgate St, Near G.P.O. LONDON.

NURSE HARVEY'S MIXTURE

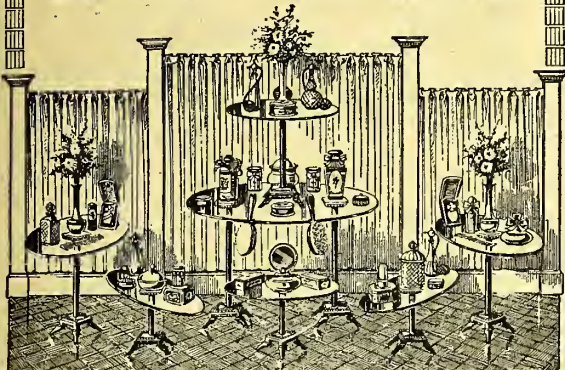
A safe, simple and reliable remedy for Children's Ailments is advertised so extensively in the daily and weekly Press as to bring mothers to the retailer without effort on his part.

The selling has been done before the mother reaches the chemist, and, having supplied her, it is only common sense to claim she will buy other family necessaries from him. Moreover, the continuous demand for it produces a quick turnover.

For Direct Terms apply to—

OSCAR SCRUTON & CO., YORK

Effect more Sales



The 'Ellesmere' Display Set 32/-

No. C.D.F. 2329 comprising

8 Beautifully finished Copper Oxydised Pedestals,
2 12-in. high, 3 9-in., 3 6-in. 7 Plate Glass Ovals,
1 18-in. by 12-in., 3 12-in. by 9-in., 3 11-in. by 5-in.

32/- Complete.

Price quoted does not include Vases or Flowers.

Our new 160-page Catalogue No. C.D. 970 illustrating every conceivable idea in Window Dressing, Stationery, etc., etc., will be sent free on request.

DUDLEY & COMPANY, LIMITED

558/576 HOLLOWAY ROAD, LONDON, N.7

City Showrooms - 65 FORE STREET, E.C.2

The Effective MOTH KILLER

destroys Moths and
their larvæ

RETAIL 5 oz. 1/-

Fixed Price } 1lb. 2/9



OVANIX

Showcards
supplied.

Sample and Terms on request.

OVANIX LABORATORIES

20 North Wharf, LONDON, W.2

'Phone : Paddington 8633.

This gives a thorough mix-up

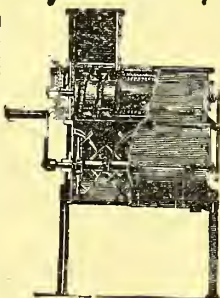
A Gardner "Rapid" sifter and mixer will thoroughly sift and mix $\frac{1}{2}$ oz. of one ingredient with a 30-lb. mixture of dry powders at one operation, and "every pinch of the whole will show its presence"—a customer's statement.

Write us for list of Ball Mills, Disintegrators, Millstones and Mills, Drum Sieves, Drying Machinery, etc.

WM. GARDNER & SONS LTD.
(Gloucester)

Bristol Road, GLOUCESTER.

'Phone 117. 'Grams : "Gardner," Gloucester



Sherleys



LACTOL &c.

(P.A.T.A.)

of profit for the retailer, and the terms on which they are supplied preclude any possibility of loss. We have an excellent range of literature and show cards, and do all in our power to assist chemists by referring mail customers to them.

WRITE FOR PRICE LIST AND TERMS.

A. F. SHERLEY & CO., LTD., 18 MARSHALSEA ROAD,
LONDON, S.E.1.

Tel. No.: Eop 1897.

Telegrams: "Sherleydom, London."

DOGS' AILMENTS

(AND CATS').

SYMPTOMS & TREATMENT. Pamphlet free on demand.

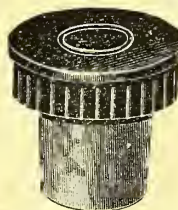
Worm Capsules, Eczema, Ear Canker and Eye Lotions,
Insect Shampoo, Tonic Alternative and Digestive Mixture.

LIBERAL TERMS TO CHEMISTS AND DISTRIBUTORS.

"ARC" ANIMAL REMEDIES CO.

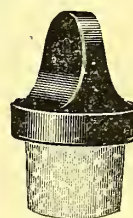
69 BISHOPSGATE - - - LONDON, E.C.2

STOPPERS



200 Varieties
Any Colour.

A suitable Composition Stopper will enhance the selling value of your package. Let us fit your Bottles and quote you.



T. WEBSTER & Co.

Telephone: Mounview 0952

Diamline House, Middle Lane, Hornsey, LONDON, N.8

Send for the New

REX

LIQUID INSECT KILLER

Window Show

SEE COUPON ON PAGE 24.

ENERGETIC

Send for this unusual

WE prepared 2,000 extraordinarily good window shows a week or two ago. They have been snapped up. Our customers' demands made it necessary to print another 2,000. Of these a few hundred remain. One of them is yours if you send in the coupon below. **MENTION YOUR WHOLESALEMAN'S NAME**, as **REX LIQUID INSECT KILLER**, being the original and standard, is handled by nearly every wholesaler of repute. Send the order direct to us, however, so that we can see that you get a window show direct. We instruct wholesaler *re* goods. The small quantity mentioned on the coupon is the minimum which you will need. If you are wise you will double the order.

REX

LIQUID INSECT KILLER

**KILLS FLIES, MOTHS, GNATS
BEETLES, BUGS, FLEAS, ETC.**

WHAT IT IS

- (1) **REX LIQUID INSECT KILLER IS SOMETHING NEW**—new profit, new turnover, a new idea, a new service to your customers, a new means of showing your shop as up-to-date.

COUPON

C. & D.

To **TIBO PRODUCTS CO., LTD.**,
55-63 Goswell Road, London, E.C.1.

4-Colour Big Bright Window Show Offer.

Send me 2 doz. 2/- 8-oz. Rex Liquid Insect Killer at 16/9 doz. and 1 doz. 16-oz. Rex Liquid Insect Killer at 29/4 doz., through my Wholesalers, Messrs.....

of
Send me Window Show direct.

Name

Address

- (2) Here is something which SELLS BY ITS VERY NOVELTY. Whoever thought of killing insects by the simple method of spraying them till REX spent £15,000 on research work to find the way?
- (3) Here is something upon which you not only make a quick first sale, but, due to its astounding efficacy, and due to the fact that women recommend this new novel method of spraying insects, IT REPEATS SO QUICKLY that most of our customers last year had difficulty in getting enough stock.
- (4) When you order a few dozen REX LIQUID INSECT KILLER you take no risk. You get the ORIGINAL PRODUCT CONTAINING 100% ACTIVE INGREDIENTS, which KILLS ALL INSECTS DEAD BY SIMPLE SPRAY—it is not merely a fly spray—though it is, of course, the most efficient fly spray.
- (5) Every bottle carries, and always has carried, the absolute guarantee "MONEY BACK IF IT DOES NOT KILL."
- (6) Every bottle carries with it a FREE TRIAL MOUTH SPRAYER.
- (7) Every bottle is carefully and PROPERLY SEALED, so that the public know they are getting the genuine 100% Active REX LIQUID INSECT KILLER.
- (8) REX LIQUID INSECT KILLER IS ABSOLUTELY NON-POISONOUS AND DOES NOT STAIN.
- (9) Many retailers have sold over 1,000 BOTTLES IN THREE MONTHS. You can do the same by sending for the window show.
- (10) Beware of inferior imitations. REX LIQUID INSECT KILLER is not cut to either public or trade. You have the bottom price—we can't do otherwise and supply the real 100% active Product.

ADVERTISING!

Free Window Show NOW

JUNE ADVERTISING

WE always do more than we promise, but below are a few of the papers in which your customers will see **REX LIQUID INSECT KILLER** advertising continuously in June. The places include many special solus positions reserved at high cost.

DAILY MAIL	DAILY EXPRESS	DAILY CHRONICLE
DAILY NEWS	MORNING POST	WEEKLY DISPATCH
MANCHESTER DAILY DISPATCH		LIVERPOOL ECHO
YORKSHIRE EVENING POST		BIRMINGHAM MAIL
EASTERN MAIL	TORBAY HERALD & EXPRESS	HULL DAILY MAIL
	NORTH MAIL & NEWCASTLE DAILY CHRONICLE	
ELFAST TELEGRAPH	IRISH INDEPENDENT	IRISH TIMES

PRICES (Carriage Paid).

oz. 2/- bottle with free Mouth Sprayer, **16/9** doz. Your profit **7½d.** each
 oz. 3/6 bottle with free Mouth Sprayer, **29/4** doz. Your profit **1/0½d.** each
 6 Lithographed Guaranteed Hand Sprayer, **21/-** doz. Your profit **9d.** each

THE ORIGINAL AND STANDARD

REX LIQUID INSECT KILLER

**KILLS FLIES, MOTHS, GNATS
 BEETLES, BUGS, FLEAS, ETC.**

**TIBO
 PRODUCTS
 CO., LTD.,
 55-63 Goswell Road,
 LONDON, E.C.1**



TRUFOOD IS SOLD ONLY BY CHEMISTS

*This statement is made in every
one of our Press Advertisements:*

ARE A MOTHER'S THANKS WORTH NOTHING TO YOU?

When a woman asks your advice on a cough mixture, therapeutic value is your prime consideration in the mixture you recommend. The same with a Baby Food. Not only because Humanised Trufood is sold *only* by chemists; but because every scientific test shows Humanised Trufood to be nearest to *mother's milk* is the prime reason for your recommendation.

HUMANISED
TRUFOOD

Nearest to Mother's Milk

Trufood Limited, The Creameries,
Wrenbury, Nr. Nantwich, Cheshire.

T.F. 227-130



Build up a Profitable HONEY TRADE

The delicious flavour of this thick, "set" creamy

NEW ZEALAND 'Imperial Bee' Honey

is irresistible. Sell it and reap a crop of repeat orders. It is a BRITISH EMPIRE PRODUCT THROUGHOUT, and is GUARANTEED PURE and WITHOUT PRESERVATIVES.

CASES per dozen, carriage paid.

48 1's Glass Screw-top Jars	.. .. .	at 14/-
48 1/2's Glass Screw-top Jars	.. .. .	at 8/6
48 1's Monopots	.. .. .	at 12/6
48 1/2's Monopots	.. .. .	at 7/3

If you cannot obtain supplies through your wholesaler, write to

A. J. MILLS & CO., Ltd. (Produce & Canned
Goods Dept.), 14 Tooley St., London, S.E.1

A & PS/

2

RIDGE'S FOOD

for Infants and Invalids

WELL ADVERTISED to the GENERAL PUBLIC.

SAMPLES, ADVERTISING MATTER and SPECIAL
DISPLAY TERMS ON APPLICATION TO:

ROYAL FOOD MILLS, LONDON, N.16

The only perfect Port Style British Wine is

GALISTA

(Pure Grape Red)

Price in bulk 8/- per gallon—in bottle 20/- per dozen.

Perfect keeping properties without preservatives. The finest known basis for Tonic and Malt Wines of any kind.

Also GALISTA MEAT AND MALT WINE supplied ready for bottling as a Tonic Wine 12/- per gallon. Can be put up bottled under special labels and wrappers. Prices on application.

And GALISTA ORANGE QUININE B.P., 9/6 per gallon.

GALE LISTER & CO., LTD., LEEDS

Tonic Wine Producers to the Trade.

Telegrams: "Vinyard, Leeds."

Phone: 28521 (6 lines)

POTTER & CLARKE

60/64, ARTILLERY LANE [1ST]
LONDON, E.C.1.

Telegrams :
"Horehound, Phone, London."

Telephone :
Bishopsgate 1033-4-5

MANCHESTER : 24 LUNA STREET, GREAT ANCOATS.

Bismuth Digestive Tablets

(Heart Shaped)



2-oz. Cartons printed in two colours (Retail 7½d.)
4/- per dozen.

3 dozen 3/9 per dozen.

Gross; 3/6 per dozen.

Bulk—2/4 per lb.

4 lbs., 2/2 per lb.

8 lbs., 2/- per lb.

16 lbs., 1/11 per lb.

28 lbs. 1/10 per lb.

1 dozen Empty Cartons free with every four pounds.
Showcards and Window Bills on request.

POTTER'S ASTHMA CURE

Widely advertised to the Public.



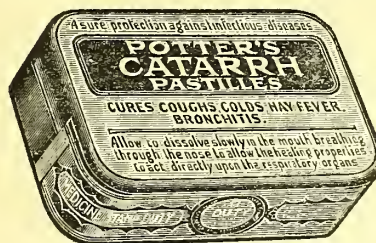
P.A.T.A. 1/6 14/- doz.

CIGARETTES P.A.T.A. 1/6 14/- doz.

SMOKING MIXTURE 9d. 7/- doz.

POTTER'S CATARRH PASTILLES

Widely advertised to the Public.



P.A.T.A. 1/3

Per dozen - - 11/-

PURE ORANGE WINE

A. MILLAR & CO., LTD., DUBLIN

VINUM AURANTII B.P.)

Prepared in strict accordance with the Formula of the British Pharmacopœia. (Wholesale only.)
Samples from Head Office, Thomas Street, DUBLIN, or London Office, 74 Great Tower Street, LONDON, E.C.3.

ESTABLISHED 1772

HENRY'S CALCINED MAGNESIA

Continues to be prepared with scrupulous care, in the greatest chemical purity by
Messrs. **THOMAS & WILLIAM HENRY**, 11, East Street, St. Peter's, Manchester.
And is sold in Bottles, authenticated by a stamp bearing their name. Trade Mark, "Henry's Calcined Magnesia".
New York: Messrs. SCHIEFFELIN & CO., William Street. PRICE 2s. 9d. Paris: Messrs. ROBERTS & CO., 5, Rue de la Paix.

FRED^K. FINK & CO.

10 & 11 MINCING LANE, LONDON, E.C.3.

GUMS, ARABIC and TRAGACANTH as Imported or
Finely Powdered. :: SHELLACS ALL GRADES.

Pyrogallic Acid Gallic Acid

Manufactured by **J. L. ROSE, Ltd.**

At ABBEY ROAD, BARKING, LONDON, E.

Wholesale and Export only.



GREY HAIRS

← appear just here.

TOUCH THEM UP WITH

TATCHO-TONE

and they will instantly recover their
natural shade. Medical Guaranty with
each bottle. Chemists' Prices 2/6 and 4/6

TATCHO-TONE CO., 5 Great Queen Street, London, W.C.2



FRIZZETTA KEEPS THE HAIR IN CURL 2/-
PELLETTA FOR THE COMPLEXION 1/4 3/3
SE-TABA TABLETS THE NEW NERVE TONIC 1/3 3/-

BEST TERMS. 3 DOZEN ORDERS ASSORTED, CARRIAGE PAID.
ALL WHOLESALE HOUSES. P.A.T.A.

Maker: F. W. BATES, Brooks's Bar, MANCHESTER.

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MEDICAL
— and —
PERFUME

27 Old Bond Street, London, W.

GERRARD 6867.

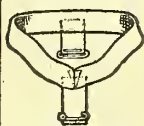


SHADEINE

For COLOURING GREY HAIR

This popular article is largely advertised
and stocked by all Wholesale Houses.
Trial size 8d. per doz. 6/-
1/4 size, per doz. 12/-
2/6 size, per doz. 24/-
3/9 size, per doz. 36/-

The SHADEINE CO., 58 Westbourne Grove, London, W.2.



The SETSNUG (Regd.) SANITARY BELT for LADIES

Costs you 12/6 per dozen. Sells at 1/6 each.

Sole Makers:

MADE IN
ENGLAND.**A. BURNET & CO., LTD.**
48 Golden Lane, LONDON, E.C.1.

DEVELOPING, PRINTING & ENLARGING

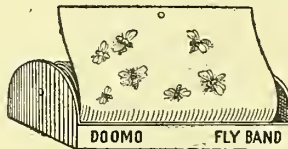
GOOD QUALITY AND
GOOD SERVICE.We invite clients to inspect
our factory and see for
themselves the system
under which we work.
WRITE FOR PRICE LIST.

C. WOOLLONS

M.P.S.

Photographic Developing & Printing,
Manor Wks., Acton Lane, Harlesden, N.W.10
(Two minutes from Jubilee Clock.)

DEAD RATS AND LIVE PROFITS by pushing FARMER'S "BAITED" RAT PASTE

ORDER
TO-DAY**FREDK. FARMER & CO., 1a College Lane, LONDON, E.9**

THE DOOM OF THE FLY

"DOOMO" FLY BAND,
wide and long,
also narrower one.**SMITH & CO.,**
Doomo Works, NEWARK.

FILING COVERS

For The Chemist and Druggist Retail Price List.
In Stout Cardboard with cords. Price 1/- each post freeThe Chemist & Druggist, Publications Dept.,
42 Cannon St., London, E.C.4

EXCLUSIVELY A PHARMACY LINE

P.P.T. PY-SHAN POINTS TEA

SECURES YOU REGULAR CUSTOMERS
AND 7d. PER POUND PROFIT.

Write for full particulars to — **Thos. Christy & Co., 4/12 Old Swan Lane, E.C.4**



A counter display of this product will lead to steady sales enhanced by the recommendation of satisfied customers

TRADE MARK

'HAZELINE'

BRAND

HAMAMELIS VIRGINIANA

Contains the volatile active principles distilled from the fresh young twigs of the shrub.

For Ladies

An astringent lotion for keeping the skin up to concert pitch and helping to prevent wrinkles.

For Gentlemen

Takes away the irritation of the skin after an unsatisfactory shave.

For First-Aid

A non-poisonous styptic and anodyne for daily mishaps.

Bottles of 4 fl. oz. and 16 fl. oz.
at 21/- and 66/- per dozen
(subject)



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Exhibition Room: 54, Wigmore Street, W.1

Associated Houses: NEW YORK MONTREAL
SYDNEY CAPE TOWN MILAN BOMBAY
SHANGHAI BUENOS AIRES

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AMULETS.
CACHETS, & APPARATUS.
CACHOUS.
CAPSULES.
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CHAPIREAU'S CACHETS.
CHOCELLÆ.
CINET GOODS.
COMPRESSED TABLETS.
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FIZZLETS. (*Suspended.*)
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FLEXOIDS.
FRAGRETS.
JAPADUMS (CINET).
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LUBRILAX.
NORETS.
NOSTRONES.
ORIFORM LOZENGES.

OTTOLETTES.
PASTILLES.
PERFUMES.
PERFUMETTES.
PERLES.
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POT POURRI (CINET)
PULVELLÆ.
REFRESHLETS.
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SYNTHOROSE.
TOILET SOAPS.
WALMSLEY CLEANING
PADS.
ZEPHYR BUTTONHOLES.
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Also Special Agents for
JELLOIDS.
IRON JELLOIDS.
DULCILAX.
MADDOCKS' PERFUMERY.
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6, Nile Street, City Road, London, N.1

Telephone : CLERKENWELL 2452.

Telegrams : "WARRICKERS NORDO, LONDON."

CORRESPONDENCE FROM OVERSEAS SOLICITED.



A WEEKLY JOURNAL OF PHARMACY AND OF THE CHEMICAL AND DRUG TRADES

THE CHEMIST AND DRUGGIST is in circulation and reputation the leading journal addressing the Chemical and Drug trades in the British Empire and other countries in the Old and New Worlds. It is the official organ of the Pharmaceutical Society of Ireland, the Chemists' and Druggists' Society of Ireland, and of other Chemists' Societies in the Overseas Dominions.

SUBSCRIPTION RATE

TWENTY SHILLINGS a year payable in advance to any part of the world, including a copy of *The Chemist and Druggist Diary*. Subscriptions may begin with the first issue of any month. Single copy, 9d., post free; *Diary*, 10s., post free. Postal Orders and Cheques should be crossed "Bank of Liverpool and Martins, Ltd."

TERMS FOR ADVERTISING may be obtained on application to: Head Office: 42 CANNON STREET, LONDON, E.C.4 (Telegrams: "Chemicus, Cannon, London." Telephone: Central 3617.)

Branch Offices: 4 Cannon Street, Manchester. (Tel. City 52.)
54 Foster's Bldgs., High St., Sheffield. (Tel.: 22458.)
19 Waterloo Street, Glasgow. (Tel.: Central 2329.)
Melbourne and Sydney, Australia.

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Recent Patents

Abstracts of specifications of recently-granted patents for inventions. The complete specification (1s. each including postage) of any British patent can be obtained from the Patent Office, 25 Southampton Buildings, London, W.C.2, on quoting the name of the patentee and the number of the patent.

Capping Device.—A device for securing closures of cap formation over the mouths of bottles or other containers. (Wallis and Askey, London. 270,086.)

Vitamin Preparations.—A process for obtaining concentrated preparations of vitamin A from fresh vegetables or fruit by cold extraction and concentration *in vacuo*. (Levon Arakel Agopian, Paris. 268,655.)

Holders for Shaving Sticks.—Improvements in holders for articles, such as shaving sticks, cosmetic sticks, etc., which permit the gradual feeding towards one end of the holder and the retaining of the stick in the adjusted position. (Henri Lowenfeld, Paris. 255,410.)

Plastic Fats.—A process of preparing fats of a plastic and pliable consistency from naturally occurring fats of a hard and brittle consistency by the addition of unvulcanised rubber, rubber latex, chicle, kauri gum, etc. (Kund Erslev, Nijmegen, Netherlands. 269,384.)

English and Welsh News

The Editor will be obliged if subscribers will send him marked copies of newspapers containing items of interest for insertion in this or other news sections.

Therapeutic Substances Act, 1925

The Therapeutic Substances Regulations, 1927, dated May 31, have now been issued and are obtainable at the Stationery Office (S.R. & O. 1927, No. 486, 9d.). The nature of these Regulations, as they were first promulgated in draft form, was set forth in THE CHEMIST AND DRUGGIST of April 16 (p. 469) and April 23 (p. 496), and a summary of the draft Regulations appeared on pp. 499 *et seq.* The Regulations differ in a few points of detail from the draft. As intimated in our last week's issue, the Regulations will come into operation on August 6, excepting the provisions as to labelling, which become effective on February 6, 1928.

City of London Health Report

The annual report of the medical officer of health for the City of London (Dr. W. J. Howarth) for the year 1926 surveys the customary routine work and contains the usual records. Under the Sale of Food and Drugs Acts 362 formal samples were taken, twenty-seven of which were found to be adulterated. Samples of drugs found not to comply with the standards of the British Pharmacopœia numbered ten, and there was one prosecution. Among samples reported not to be genuine were: Purified borax, 75 parts of arsenic per million; white precipitate ointment, 14 per cent. deficient in ammoniated mercury; sulphur ointment, 108 per cent. excess of sulphur; calomel ointment, 25 per cent. excess of mercurous chloride. Two samples of vinegar showed deficiency in acetic acid (26 per cent. and 43 per cent.), and a sample of malt vinegar contained 100 per cent. of vinegar other than malt. An informal sample of Gregory's powder was found to contain 9.77 per cent. of magnesium carbonate. A summary of work carried on at the venereal disease centre shows that the new patients admitted totalled 485, compared with 402 in 1925, and that examinations for the Wassermann reaction numbered 5,003. Rat repression was carried out on lines indicated in a previous report (*C. & D.*, I, 1925, p. 721). Comment is made on the increase in numbers of the black rat (*R. rattus*), which now outnumbered the brown rat (*R. norvegicus*) in the city.

Inquests

The death of Mr. Henry Pechey, retired chemist and druggist, Camperdown, Great Yarmouth, was the subject of an inquest on June 9, when it was shown that he died as the result of a fall. The coroner returned a verdict of "Accidental death," and expressed his sympathy with the widow and family.

The deputy coroner for Sheffield held an inquest, on June 7, on the body of John Hobman, grocer's clerk, who died in hospital. Evidence showed that Hobman had suffered from headache; on June 4 he collapsed after taking "a bottleful" of aspirin tablets, and subsequently he died. The bottle produced originally held 100 tablets. An open verdict was recorded.

An inquiry was opened at Guildford, on June 13, concerning the death of Sarah Ann Edgington and Elizabeth Fagent, inmates of the local infirmary, both aged seventy-nine, who died after taking a dose of medicine believed to be compound liquorice powder. The medical officer of the institution stated in evidence that there were two other women who had the same liquorice powder; and both had been taken ill, but they recovered. Another witness said that a *post-mortem* examination failed to disclose the cause of death in each case, and the inquiry was accordingly adjourned for analysis to be made.

At Swansea, on June 11, an inquest was held on the body of Louisa Godwin, Morriston, a young married woman who died soon after confinement. Mr. C. A. Seyler, B.Sc., F.I.C., borough analyst, gave evidence of receiving two bottles of liquid for analysis. He found that these contained strychnine, and he also found strychnine in the stomach of Mrs. Godwin. Beatrice M. Rose, the nurse, said she supplied the bottle herself,

and as far as she knew it never contained strychnine. The bottle had not been out of her possession. In cross-examination she admitted that about a week ago another patient died. The coroner said it was a mystery how the poison got into the bottle, and it would remain so. A verdict of "Death from misadventure" was returned.

Birmingham

The Prime Minister will open the new biological block and the extension to Chancellor's Hall at Birmingham University on October 20.

Mr. T. H. Armstrong, late of Bristol, who has had wide experience in chemists' shopfitting, has been appointed general manager of A. Edmonds & Co., Ltd., shopfitters.

Liverpool

Harold Lomax, Ltd., Edge Lane, Liverpool, have gained the third prize in the Rexall birthday sale window-dressing competition.

Mr. Lescher (Evans Sons Lescher & Webb, Ltd.) and Father King acted as guides to members of the Liverpool Chemists' Association who visited Stonyhurst College on the occasion of their annual picnic. Tea was served at the Bailey Arms, Hurst Green, and the party reached Liverpool at 11 p.m.



Photo

LIVERPOOL PARTY AT STONEYHURST

[M. S. Hughes

Sheffield

Brightside and Carbrook Co-operative Society, Ltd., is to open a branch at Moonshine.

Opinion is divided on the new terms for Insurance dispensing; some of the larger contractors would prefer a definite cut.

Mr. H. G. Williams and his friend, Mr. H. H. Greenfield, have recently been on a motor tour. Several of the delegates to the Conference are motoring to Brighton.

Mr. R. G. S. Dalkin, chemist and druggist, 41 Wellgate, Rotherham, has opened a branch at 345 Attercliffe Common, and is presenting a tablet of soap to purchasers to the amount of 6d. and over.

Miscellaneous

FIRE.—A fire broke out at the premises of the Killgerm Chemical Co., Cleckheaton, on June 8, the outbreak originating in a still. The building containing it was destroyed.

WINDOWS DAMAGED.—A runaway motor-car smashed a window at the pharmacy of Mr. J. Hodge, chemist and druggist, Notte Street, Plymouth, recently.—A shop window of Mr. J. F. Blackhurst, chemist and druggist, Bond Street, Blackpool, was wilfully defaced by scratches on June 8.

UNSTAMPED RECEIPTS.—The Law Officers of the Crown have advised the Chancellor of the Exchequer that the unstamped receipts issued by the Midland Bank for amounts under £2 are taxable bills of exchange, and to place the interpretation of the law beyond all doubt a test case will be instituted without delay. Meanwhile the issue of the receipts have been stopped.

IN THE COURTS.—At Sunderland Police Court, on June 10, Mr. John George Harrison, chemist and druggist, Hendon Road, was charged at the instance of the Cor-

poration with having, for reward, medically treated a person for venereal disease. The defendant denied the charge, and said that the man in question was treated only for rheumatism. A fine of £25 was imposed.—At Thames Police Court, London, on June 14, Henry Lawrence, seaman, was fined £15 for smuggling saccharin of the treble value and duty of £24 15s.

THEFT CHARGE.—At Old Street Police Court, on June 14, Edward J. Smith (61), warehouseman, and William J. Robins (58), motor driver, were charged with being concerned together in stealing and receiving a sack containing wood, value 5s., the property of their employers, The British Drug Houses, Ltd., Graham Street, N. There was a further charge against Smith of stealing cotton-wool, plaster, 1 lb. of lozenges, 1 lb. of dextrin, 17 lb. of sugar, 10 lb. of soap, three tins of vaseline, three tins of ointment, thirty-nine bottles of pharmaceutical products, and eight empty sacks, value £2 10s., also the property of The British Drug Houses, Ltd. The accused pleaded "Guilty," and were remanded.

CHEMICAL INDUSTRY AND EDUCATION.—Addressing the annual conference of the Association of Teachers in Technical Institutions at Plymouth, which ended on June 11, Mr. W. J. U. Woolcock, President of the Society of Chemical Industry, pleaded for better co-operation between industrialists and educationists. The chemical industry was among the first six of the big industries of this country. There was £200,000,000 invested in it, and more than 250,000 people were earning their living in it. More than a century ago there was planted in England the beginning of what was known as the heavy chemical industry. To-day they had reached another development, and he believed they were about to witness what was going to be the biggest march forward that science had ever seen. This development, he thought, would be along the lines of the production in economic quantities of commonplace articles.

FALSE PRETENCE CHARGE.—At Old Street Police Court, London, on June 13, Alfred King (56), counter hand, Pembroke Road, Walthamstow, and Henry R. Jarvis (53), cooper, Penrose Street, S.E., pleaded "Guilty" to being concerned together in attempting to obtain the sum of £8 11s. 10d., the money of The British Drug Houses, Ltd., Graham Street, N., by means of a false pretence, with intent to defraud. It was stated that the prosecutors dealt with a company in which Jarvis was a partner. In consequence of shortages of kegs in the warehouse a check was kept, and it was found there was a shortage of thirty-two kegs on one date, twenty-four on another, and thirty on another. A detective saw Jarvis when he was presenting three accounts for payment, and told him he had reason to believe that he was invoicing for a larger number of kegs than had been delivered; he replied "Yes." King had been with the prosecutors for twenty-seven years, and Jarvis's firm had been supplying them for twenty-nine years. A remand was ordered.

LONDON CHEMISTS' GOLFING SOCIETY.—At a meeting held over Oxhey course, on June 9, Mr. H. Kemp, Maswell Hill, won the prize presented by Arthur H. Cox & Co., Ltd., and Mr. T. W. D. Turner was the winner of the Carmichael trophy. The leading scores were:—

Arthur H. Cox Prize		Carmichael Trophy	
H. Kemp	97-18=79	T. W. D. Turner	1 up
T. W. Turner	79+1=80	H. Kemp	2 down
W. Main	88-7=81	D. J. Parry	2 down
R. C. Green	98-12=86	Dr. B. Yule	3 down
R. M. Graham	104-18=86	W. Main	4 down
J. W. Skelley	99-12=87	A. W. Daniel	6 down
A. W. Daniel	99-10=89	R. C. Green	6 down
P. O. Royle	107-18=89	R. M. Graham	6 down
H. I. Royle	105-16=89	P. O. Royle	6 down
M. W. Carmichael	98-4=94	Dr. J. Skelley	7 down

The Society has a number of supporters who do not play golf, and to enable these members to join the golfers, it has been suggested that a Sunday on the Thames be arranged to take place in July. The matter will be discussed at West Surrey golf course on June 19. To enable the meeting to reach a decision members unable to attend should inform the secretary how many guests they would bring if such a party takes place. The estimated cost is 15s. per head.

Scottish News

Brevities

Mr. J. A. Anderson, chemist and druggist, has commenced business at Ecclefechan.

Mr. Robert S. Graham, Elgin, has taken over the business of Mr. Charles S. Rule, chemist and druggist, 37 Duke Street, Huntly, Aberdeenshire.

Mr. Martin Jamieson, 2 High Street, Montrose, has been appointed chemist and druggist to Montrose parish council for the ensuing year.

The business of the late Hugh Gemmell, 47 Princes Street, Ardrossan, will be managed on behalf of Mrs. Gemmell by her son, Mr. David Gemmell, chemist and druggist.

Mr. Thomas Harley, Perth, delivered an address on "Pharmacy in South Africa" at a meeting of the Scottish Rexall Club recently. Mr. T. Ridley, Ph.C., Carlisle, and Mr. M. L. Daniels, Nottingham, spoke regarding "Rexall" business.

Sporting Events

Members of the Edinburgh Chemists' Golf Club competed for the captain's prize over Gullane No. 1 course on June 8, scores being also taken for the golf trophy, with the following results:—(1) A. Henderson, 72; (2) E. Brindle, 76; (3) Jas. Manson, 77. The next outing takes place over Cammo on June 22, when scores will be taken for the Pinkerton Gibson trophy.

The Aberdeen and District Pharmacists' Golf Club held their annual outing at Banchory on June 8. The result of the competition for prizes presented annually by Munro, McLaren & Sutherland, Glasgow, was:—(1) equal, H. M. Dugan and J. McConnach; (2) equal, M. C. Duncan and W. Marshall. Tea was served in the Burnett Arms Hotel. Mr. John Forsyth, captain of the club, announced the results of the competition, and gave a welcome to the members and their friends, the county pharmacists, and the representatives of the wholesale houses. Votes of thanks were given to the secretaries, Mr. M. C. Ross and Mr. C. Michie, for the arrangements. Friendly matches were played later in the evening.

Details of the recent Scottish chemists' golf tournament at Gleneagles are as follows:—Travellers' trophy—D. H. Russell; Scratch Prize (presented by Duncan, Flockhart & Co.)—C. B. Milburn. First-class handicap—(1) H. Skinner; (2) B. Christie; (3) J. G. Taylor. Second-class handicap—(1) W. M. Moffat; (2) A. Saunders. Pears Trophy—A. H. Gillies. Bogey Prize—(1) G. Brunton; (2) A. Scott. Veterans' Prize—T. Macmaster, A. G. Adamson. John Grieg Prize (for best 15 holes)—(1) M. C. Ross; (2) J. Ross. Gibbs Territorial Cup—(1) Glasgow section: D. H. Russell, W. M. Moffat, B. Christie, J. G. Taylor; (2) Edinburgh section: A. H. Gillies, D. N. L. Philp, J. Finlay, D. Barrie and H. Gauld (tie for fourth place).

The competition for the Rainy Brown trophy took place at Muirfield, on May 31, with the following results:—

Glasgow		Edinburgh	
W. Sievwright (capt.)	... 1	v. W. G. McNab (capt.)	... 0
B. Christie	... 0	v. J. D. Lunan	... 0
A. Watt	... 0	v. J. Finlay	... 1
W. McDavid	... 0	v. D. S. Philp	... 1
D. G. McKenzie	... 0	v. H. Skinner	... 1
W. Thomson	... 0	v. J. McKenzie	... 1
K. McKenzie	... 0	v. D. N. L. Philp	... 1
J. Hart	... 0	v. J. Manson	... 1
J. Anderson	... 0	v. A. S. Brown	... 1
A. Taylor	... 0	v. D. Barrie	... 1
G. McLennan	... 0	v. A. McDougall	... 1
R. Moffat	... 1	v. J. J. Stone	... 0
E. Blyth	... 1	v. A. Henderson	... 0
A. Scott	... 0	v. W. McIntosh	... 0
J. Erasmus	... 0	v. M. Stoddart	... 1
D. McKenzie	... 0	v. R. D. Douglas	... 1
D. G. Coutts	... 1	v. A. C. Aitken	... 0
D. Hogg	... 1	v. J. P. Gibb	... 0
A. Saunders	... 1	v. W. J. Rosie	... 0
T. Macmaster	... 1	v. E. Knott	... 0

Matches ... 8 Matches ... 11

Irish News

Pharmaceutical Society of Ireland

The latest dates for candidates applying for entrance to the July examinations are as follow: Preliminary examination, Thursday, June 23; Registered Druggist examination, Tuesday, June 28; Ph.C. Licence examination, Wednesday, June 29; Ph.C. Assistant examination, Monday, July 4.

Poisonings in Northern Ireland

The Registrar-General for Northern Ireland entered upon his duties on January 1, 1922, in pursuance of an Order in Council. Although his annual reports, so far as they are available, disclose very small figures in respect of accidental poisoning, and suicidal poisoning is not mentioned, the details given by him may be briefly summarised. The number of births, marriages and deaths, and the estimated population, is as follows:—

Year	Population	Births	Marriages	Deaths
1922	1,269,000	29,531 (23.3)	8,072 (6.36)	19,795 (15.6)
1923	1,259,000	30,097 (23.9)	7,974 (6.33)	18,790 (14.9)
1924	1,258,000	28,496 (22.7)	7,514 (5.97)	20,299 (16.1)
1925	1,257,000	27,686 (22.0)	7,682 (6.11)	19,784 (15.7)

The figures in parentheses indicate rates per 1,000 of estimated population. As might have been expected from previous records for Ireland, the figures for accidental poisoning arising from substances handled by chemists are almost negligible. Thus, we learn that in 1922 two persons were killed by carbolic acid, three by laudanum or morphine, and one by methylated spirit; that in 1923 three persons died by the agency of methylated spirit, one by strychnine, one by laudanum, one by phosphorus, and one by "acid"; and that in 1925 one person was killed by ammonia and one by lysol. As suicides of all kinds (always a small total in Ireland in the past) amounted to 57, 50, 68 and 75 respectively during the four years, it is possible that some occurred as the result of taking poison; and it would have been interesting to have precise information in this respect.

Brevities

At Ballymena, co. Antrim, recently, Mrs. Jeannie Jackson died as the result of drinking liquid ammonia. At the inquest a verdict of "Death from poisoning" was returned.

Mr. Patrick Loftus, a native of Swinford, and employed as a chemist's apprentice in Ballaghaderreen, was killed whilst riding on the pillion of a motor-cycle in co. Mayo. The machine crashed into a motor coming in the opposite direction, and both the rider of the bicycle and Loftus were killed.

At the annual meeting of the Derry County Council, on June 8, in Coleraine, Senator Long, chairman, said the outstanding event of the year had been the loss the Council sustained in the death of their vice-chairman, the late Mr. J. E. O'Neill, J.P., R.D. Mr. Chas. O'Hara, a nephew of Mr. O'Neill, was appointed vice-chairman in his place.

The Tuberculosis Committee of the Belfast Corporation has just placed a series of extensive contracts for drugs and medical appliances for the Municipal Sanatorium and the Municipal Hospital for Tuberculosis Children. The drug contracts have been awarded to Fred Storey, Ltd., and Mr. T. E. Stevenson, with some items to John Clarke & Co. In the case of certain proprietary articles it is decided to purchase direct from Oppenheimer, Son & Co., Ltd., Burroughs Wellcome & Co., and Genatosan, Ltd. Contracts for dressings were awarded to John Clarke & Co., T. E. Stevenson, and Fred Storey, Ltd. The tender for trional made by Mr. T. E. Stevenson at 17s. per lb. was accepted for six months.

METHYLATED SPIRIT DRINKING IN LONDON.—The latest annual report of the Commissioner of Police of the Metropolis shows that last year's convictions for drunkenness caused by drinking methylated spirit disclosed a further decrease in the practice, numbering only 39, compared with 61 in 1925 and 142 in 1924.

French News

From the "C. & D." Paris Correspondent.

HOSPITAL PHARMACISTS.—The annual competitive examination for forty-three posts as hospital house-pharmacists in Paris attracted 174 candidates this year. Eighty-one passed the oral and entered for the final written tests: "Hydrochloric acid and chlorides"; "Tinctures and alcoholatures"; the "Euphorbiaceæ." Thirty of the successful candidates were male and thirteen female, but in order of merit the leading ladies only attained the ninth, thirteenth and nineteenth places on the list.

SUNDAY CLOSING.—Delegations from the Seine Pharmacists' Association and the Assistants' Association recently waited on the Minister of Labour to report the results of the referendum on Sunday closing. Statements having been made that the new system was not really approved by a majority of Parisian and suburban retailers, this referendum was organised under the control of a committee comprising the chairmen of the General Council of the Seine, the Paris Municipal Council, and the General Association of French Pharmacists, the replies being received and kept under seal by a notary public. These, when opened, showed that 1,022 pharmacists had voted in favour, and 318 against the existing system. A leading Parisian daily published an account of an incident that recently happened. One Sunday one of the consistent and constant objectors to the decree had been noted in the usual way by a policeman for opening his pharmacy out of his turn. The same evening a policeman, badly bitten in the hand by a negro after a row in a dancing hall, called for first aid. "Are you the man who took down my name this morning?" asked the pharmacist. "No, it was my comrade." He was duly bandaged. Insignificant in itself, this tale aptly illustrates the profound conviction of every Parisian that it is the pharmacist, not the doctor nor the hospital, who renders first aid: one more curious confirmation of the fact familiar to all lifelong residents of this city, that time-honoured custom is here almost invariably stronger than established law.

THE HISTORIAN OF FRENCH ARMY PHARMACY.—M. Antoine Balland, whose death at the age of eighty-two occurred recently, was a well-known figure: an associate member of the Paris Society of Pharmacy, corresponding member of the Academy of Medicine and of the Academy of Sciences, and Officer of the Legion of Honour. He spent practically the whole of his life as a military pharmacist. A student at the old Superior School of Pharmacy at Strasbourg, and subsequently at Val-de-Grâce, he had only just commenced his army career when the war of 1870-71 broke out. He was taken prisoner after the battle of St. Privat and sent to Germany, but managed to get back to France after Sedan, and saw something both of the siege of Paris by the Germans and of the Commune. All this he has told in simple diary fashion in his "War of 1870; Notes of a Young Assistant Major." After a stay at Lyons and five years in Algeria, he acted as pharmacist to the Garde Républicaine, served at Cambrai and Amiens, and finally came to the Invalides, where I made his acquaintance, in 1889. In 1891 he was placed in charge of the analytical laboratory, then first established in this old historical building, and gained the rank of chief pharmacist. Here he remained till he reached the age limit in 1905, a quiet, kindly, unassuming veteran. His tastes were literary and historical, and he whiled away his ten years of retirement by writing his standard history of "The French Military Pharmacists," a valuable work of reference, published in 1913. I used to find him sitting slippers in his little flat in the rue de Verneuil, surrounded by his books, and full of chatty reminiscences of army pharmacy. He had just finished his "Notes of a Young Assistant Major" when the war of 1914-18 broke out, which postponed its publication, for he was "dug out," and went back to his old laboratory at the Invalides. "I'm glad the British have come in," he would say to me during the darkest days of those weary years. "That means that this time we shall see it through."

Colonial and Foreign News

THE BURMA DRUGS AND CHEMICAL STORES CO. is the name of a new concern which has lately been established at 74A Mogul Street, Rangoon, Burma, with a capital of 50,000 rupees.

EXEMPTED PREPARATION OF COCAINE.—The Government of India, by a Resolution dated April 30, 1927, have decided to add "Ferrarsons," manufactured by Dr. Zambelletti of Milano, to the list of exempted preparations of cocaine attached to Customs Circular No. XVII of 1924. This preparation will enjoy this exemption only so long as it does not contain more than one-tenth per cent. of cocaine.

DANISH UNEMPLOYED PHARMACISTS' FUND.—During the year 1926-27 the sum of 21,514.50 kroner was paid to ninety-five pharmacists, representing a daily payment of 3.50 kroner for 6,147 days from the fund for assisting unemployed Danish pharmacists. On May 31, 1927, this organisation included 956 members, and during the past year its income amounted to 75,500.25 kroner, to which the Danish Government contributed a grant of 14,847 kroner, while various communal authorities contributed in the aggregate 13,793.60 kroner; the members' subscriptions totalled 44,916 kroner.

BUSINESS IN SIAM.—Reports from Bangkok indicate that the market is overlaid with supplies of drugs and pharmaceuticals, and owing to the excess of Government medical stores these conditions are likely to prevail for approximately two years. The Government are calling for tenders in order to dispose of their excess. The principal drug dealers in Bangkok are fully stocked up, and are open to buy only small quantities of goods they are in need of. The prime factor is that the import duties have just been increased, and there is a possibility of further alterations in the spirit duties which has unsettled the market.

Coming Events

This section is reserved for advance notices of meetings or other events. These should be received by Wednesday of the week before the meetings, etc., occur.

Saturday, June 18

"Allenbury's" Club.—Opening of new ground and pavilion at Chadwell Heath by Mr. F. W. Gamble. Gala and sports from 10 a.m. to 10 p.m.

Sunday, June 19

London Chemists' Golfing Society, West Surrey Golf Course, Milford, Godalming. Train from Waterloo 9.30 a.m. First round "Medal" for Gibbs prize and second round 4-ball "Bogey" for C. E. Harrod prize.

Monday, June 20

British Pharmaceutical Conference.—Reception by the Mayor of Brighton, Royal Pavilion, 8 p.m.

Tuesday, June 21

British Pharmaceutical Conference.—Opening session and science meeting, Royal Pavilion, 10 a.m. Luncheon, 1 p.m. Science meeting and delegates' meeting, 2 p.m. Ladies' excursion, 3 p.m. Conference banquet, 7 p.m.

Wednesday, June 22

British Pharmaceutical Conference.—Science meeting, delegates' meeting and ladies' excursion, 10 a.m. Luncheon, 1 p.m. Closing session, 2 p.m. Garden party, 4 p.m. Conference ball, 8 p.m.

Thursday, June 23

British Pharmaceutical Conference.—Day excursion to Eastbourne and Beachy Head, 10.45 a.m. Cabaret and dance, 8.30 p.m. London Chemists' Golfing Society.—Hadley Wood Golf Course. "Medal" round for Vinolia prize; Bogey for "Hepburn" Shield.

Friday, June 24

British Pharmaceutical Conference.—Sports day at Hollingbury Park.

INTER-ASSOCIATION SPORTS.—The competitions for the Maw Challenge Shield will be held at New Barnet (S. Maw, Son & Sons, Ltd., ground) on June 29.

Legal Reports

Damages for Child's Death: New Trial Refused.—In the Court of Session, Edinburgh, on June 10, the firm of George Melville, Viking Thread Mills, Pollokshaws, Glasgow, applied for a new trial in the case in which Mr. P. Fitzpatrick, a Glasgow tramcar driver, had been awarded the sum of £150 as damages for the loss of his son, aged six, who had eaten sodium nitrate from a barrel standing in the doorway of the defenders' dye-house (*C. & D.*, January 29, p. 124). The defenders contended that the verdict was contrary to the evidence. Lord Sands, in refusing the application, said that counsel for the firm had urged that the taste of the sodium nitrate was not sweet, but saline, and an ordinary boy on tasting it would spit it out, but this unfortunate boy had an abnormal taste for things saline, and ate it; such a taste was so unusual that the defenders could not be made liable for the consequence of not having provided against it. Counsel, with that sense of duty to their clients which distinguished them, tasted the substance. A sense of duty to the State, in view of the value of their own lives, forbade the members of the Bench to do so. His lordship thought, however, they must take it that it had not been shown that nitrate of soda, while undoubtedly of a saline taste, was so abhorrent to the palate that nobody could have imagined that anybody would swallow it. In the absence of any medical or statistical evidence upon this matter, that seemed to have been a question for the jury on their own general knowledge and experience. Lords Blackburn and Ashmore concurred.

Dangerous Drugs Act Prosecution.—At Marylebone Police Court, London, on June 8, Curtis & Co., Ltd., chemists, 79 Baker Street, W.1, and Mr. Harrison, one of their dispensers, were summoned under the Dangerous Drugs Act, 1920, for having supplied morphine to an unauthorised person and not in pursuance of a prescription by a qualified medical man, and for not making entries of the supply in the "dangerous" drugs register within twenty-four hours. The dispenser was accused of aiding and abetting. Mr. Frampton, barrister, defending, pleaded "Guilty." Mr. Vincent Evans, solicitor, for the Director of Public Prosecutions, said that there were eight summonses against the company and eight against the dispenser in respect to four different dates, January 8, 11, 18 and 20. The defendant company were chemists in a very large way of business. In April last a Mr. Thornton, a Home Office inspector, visited the premises and asked to see the "dangerous" drugs record. He noticed that certain entries, which should have been made in January, had been made a month later. The dispenser, Mr. Harrison, admitted that the entries had not been made until February 15, and he was asked for the original prescriptions. They were signed by Dr. Laing, 14 Montagu Street, W., and Mr. Harrison stated that they had been returned to the doctor to be put into conformity with the Regulations and had not been again received until February 15. Mr. Thornton came to the conclusion that the body of each prescription was in a different handwriting from the doctor's, and, on April 8, he again visited the premises. Mr. Harrison then admitted that the prescriptions had been written out by him and signed by the doctor. He said that for six months past he had been in the habit of handing morphine tablets to two nurses, who were attending a patient suffering from a painful and incurable disease. He wrote out the prescriptions, he said, and the doctor signed them at a subsequent date. There was no suggestion, said the solicitor, that the firm was more than legally liable. The magistrate remarked that it looked as if the doctor was not entirely free from blame. The solicitor said that it was only fair to say that the drug was legitimately required, and had been supplied in this way when the nurses had found themselves short. The danger was that the nurses might have been drug addicts. Mr. Frampton, for the defence, urged that the defendants had known the doctor for twenty years, and supplied the drug in this way as it was wanted urgently to relieve pain. The prescriptions should, of course, have been signed within twenty-four hours. The nurses always signed for the drug. Counsel added that Messrs. Curtis kept another book apart from

that required by the Act; and if they had not been straightforward in this matter, nothing would have been known of it. The morphine was only sent directly at the doctor's request. Counsel pointed out that a conviction might mean that the company would lose their "dangerous" drugs authorisation. The magistrate said he knew that the defendants were reputable chemists, and there was no doubt that they had offended through kindness of heart and in their anxiety that the patient's suffering should be relieved. Under all the circumstances, he dismissed the first summonses against the company on payment of £5 5s. costs, and the first summonses against Mr. Harrison on payment of £2 2s. costs, and marked all the other summonses "withdrawn."

Fur Dermatitis Claim.—In the King's Bench Division of the High Court, London, on June 14, Mr. Justice Branson had before him an action arising out of a case of dermatitis, owing to the alleged deleteriousness of a dyed fur collar. The plaintiffs were Kasler & Cohen, furriers, Aldersgate Street, E.C., and the defendants G. & A. Slavouski, also in the fur trade, and the claim was for the sum of £699, for alleged breach of warranty. The defendants denied liability, and sued La Pelleterie de Roubaix S.A., Nord, France, for damages for breach of contract, which the French company denied. Mr. Schiller, K.C., and Mr. Samuels were for the plaintiffs; Mr. J. B. Matthews, K.C., and Mr. R. F. Levy for the defendants; Mr. J. J. Joy, K.C., and Mr. H. Murphy for the French company. Mr. Schiller, in opening the case, said that the defendants in the second action were manufacturers of skins used as fur trimmings. In 1923 the plaintiffs received an order from Mace, Rainbow & Stone, Gravel Lane, S.E., who in turn sold to Scott & Co., Ltd., Cannon Street, E.C., who again sold to Mr. Alexander McMillan, draper, East Broxburn, West Lothian. The latter in October 1923 sold to Miss Isabella White, a certificated nurse, a fur coat with the collar which caused the present dispute. The first time she wore the coat she found, on removing the garment, that she had developed a rash. She had to consult Dr. Gardiner, an Edinburgh skin specialist, who discovered that the cause of the rash was the fur collar, it having set up fur dermatitis. Miss White made a claim against Mr. McMillan, and was awarded in the Edinburgh Courts the sum of £67 10s. Mr. McMillan then took action against Scott, who in turn sought indemnification from Mace, Rainbow & Stone, all of which led up to the present actions. An examination of the fur collar was made by Mr. John Wilson MacDougall, B.Sc., analytical chemist, Edinburgh, who discovered the presence of antimony. The costs for the expert evidence were very large, and increased in each case where indemnification was sought from the various firms. Counsel submitted that the fur dermatitis was brought about by the presence of antimony. Evidence was given by Miss White, Dr. F. Gardiner, physician at the Royal Infirmary, Edinburgh, Dr. Alexander Kelso, Broxburn, Mr. J. W. MacDougall, Mr. G. Leslie (Mr. MacDougall's assistant), and Mr. Alexander McMillan. For the defendants, Mr. George Slavouski gave evidence on June 15 as to the purchase of the fur collars from the French company, and Dr. Gordon Parker, Cambridge University, said that he was skilled as an analyst in dermatology; he made most exhaustive tests as to this particular collar, and found that it was innocuous; there was no sign of antimony, even after making physiological tests. In his opinion, Miss White might have been "rabbit-sensitive," and that was the only way in which the symptoms she found after wearing the coat and collar could be accounted for. The hearing was again adjourned.

Business Changes

ASCOTT'S PHARMACIES, LTD., have purchased the business of Mr. W. E. Morton, 92 Packington Street, London, N.1.

THE PURE RUSSIAN LIQUID PARAFFIN CO., LTD., are removing as on June 20 to Bishopsgate House, 80 Bishopsgate, London, E.C.2. Telephone: London Wall 7132-33.

Trade Names Dispute

IN the Chancery Division of the High Court, London, on June 14, Mr. Justice Tomlin commenced the hearing of an action brought by J. G. Ingram & Son, Ltd., Hackney Wick, E., against the firm of W. G. Ingram, Parnell Road, E., to restrain an alleged infringement of the plaintiffs' trade-marks for surgical rubber goods, and passing off. Mr. Moritz, K.C., and Mr. Shelley appeared for the plaintiffs; Mr. Whitehead, K.C., and Mr. Swann were for the defendants.

THE PLAINTIFFS' CASE

Mr. Moritz said that this was a trade-name case, and that the main relief he asked for was an injunction restraining the defendants from carrying on business in the manufacture or sale of surgical goods made of rubber under the name "Ingram" or "Ingram's," with or without the addition of "London," without taking reasonable precautions clearly to distinguish their goods from those of the plaintiffs. Counsel said his case was that for surgical rubber goods which were practically exclusively steam-cured the names "Ingram," "Ingram, London," "Ingram's" and "Ingram's, London" were by long user entirely distinctive of the plaintiffs' goods, that the defendants had never been in the trade as manufacturers, and only quite sporadically and recently as sellers, their business being chiefly in cold-cured rubber goods such as toy balloons and with a totally distinct public. The plaintiffs' business was founded in 1847 by a gentleman named J. G. Ingram, and was carried on by him and his sons as J. G. Ingram & Son until 1916, when it was turned into a limited company. The defendants said that their business was founded in 1870 by W. A. Ingram, a younger brother of the J. G. Ingram who founded plaintiffs' business. He died in 1886, and his son, W. G. Ingram, took on the business. He died in 1915, and the business was now carried on by his sons, Mr. William Frederick Ingram and Mr. George Ingram, so that the result was that the defendants' business was being carried on by second cousins of the managing director of the plaintiff company. Although not the largest in the trade, the plaintiff company was one of the largest: it employed 500 hands, and the works covered an area of between four and five acres. Their goods were made by steam heat and vulcanising, and required extensive plant. The defendants' business was a smaller one, and of a totally different character. They dealt in what were called cold-cured rubber goods, and for many years had done a very extensive trade in toy balloons. They never until quite recently did any business in steam-cured rubber goods, and never had the plant for making them; but recently from time to time they had sold steam-cured goods purchased from other manufacturers. They had apparently determined to come into the surgical rubber-goods trade, and had issued catalogues and circulars in which they used the name "Ingram's" in a way that had caused confusion in the trade. He would call evidence to prove that for many years in the surgical rubber-goods trade "Ingram," and particularly "Ingram's," had become entirely distinctive of the plaintiffs, whose goods included hot-water bottles, enemas, syringes, breast relievers, sprays, belts, gloves, gauntlets, inhalers, insufflators, etc. Many of their customers insisted upon the name "Ingram's" being on the goods as a guarantee that they were of the plaintiffs' manufacture. The defendants said that for twenty years they had used the name "Ingram" or "Ingram's," and that the public understood the names to mean either plaintiffs' or defendants' goods; but he (counsel) submitted that if the defendants' name was distinctive for toy balloons it did not entitle them to come into the surgical rubber-goods trade and use it there. The defendants also said that for the past twenty years they had manufactured or sold a number of surgical rubber goods. Mr. Whitehead: We have not made any steam-cured goods, but have sold some. We have, however, made cold-cured surgical goods. Mr. Moritz: They are extremely few as compared with steam-cured.

EVIDENCE FOR THE PLAINTIFFS

Mr. Arthur Dennis Ingram, managing director of the plaintiff company, said it had a capital of £60,000 and debentures to the amount of £40,000. The main portion of the business was the manufacture of surgical goods. They were advertised and sold as "Ingram's." Some of the articles could be made by cold-curing, but hot-water bottles, for example, could not be manufactured without steam-curing plant. Cross-examined: He agreed that the defendants had a well-known trade-mark, "Gramwill," which they always used in their advertisements. It was well known in connection with toy balloons, but not with surgical goods. He complained of the use of the words "Ingram's, London" even with "Gramwill" between. The words meant the plaintiffs' goods, whether the defendants' trade-mark was there or not. From letters produced by counsel, witness admitted that so far back as 1911 his company must have known that the defendants were dealing in surgical rubber goods. They had from time to time purchased toy balloons from the defendants, but he did not know that their invoices described them as "manufacturers and importers of surgical indiarubber goods." Mr. Whitehead also produced samples of a child's truss, belts, ice-bags, whirling sprays, etc., stamped "Ingram's Gramwill London" and sold by the defendants over many years. Witness said he had not seen them or the defendants' advertisements of surgeon's gloves. He was not aware that the two businesses were usually referred to as "Ingram's, Hackney Wick," and "Ingram's, Old Ford."

Mr. J. F. Daniel, theatre supervisor, London Hospital, said he was responsible for the medical and surgical equipment of the hospital. He had known the plaintiffs for many years, but never heard of the defendants until 1926. If rubber goods marked "Ingram's Gramwill London" had been offered to him prior to 1926 he would have thought that plaintiffs had obtained a new trade-mark. Mr. H. C. Edwards, chief buyer of surgical rubber goods for Boots Pure Drug Co., Ltd., said he had bought from the plaintiffs for twenty-eight years. Their goods were described as "Ingram's," "Ingram's rubber goods," or "Ingram's surgical goods." The hearing was adjourned.

On the resumption of the hearing on June 15, Mr. J. T. Roache, territorial manager to The Timothy White Co., Ltd., wholesale and retail chemists, with over 100 retail shops on the South Coast, gave evidence to the effect that he was familiar with the plaintiffs' goods, which he knew under the name "Ingram's." Until this action he had never heard of the defendants. If he saw the name "Ingram's" in connection with surgical rubber goods he would take them to be the plaintiffs' goods. Mr. Henry Peet, J.P., chemist and druggist, Ranelagh Place, Liverpool, and Mr. Alfred Hornby, Ph.C., St. Leonards-on-Sea, said that the name "Ingram" or "Ingram's" meant the plaintiffs' surgical rubber goods, of which they had had a long experience.

SETTLEMENT REACHED

At this stage a settlement was arrived at. Counsel had a consultation with the judge in his private room, after which Mr. Moritz announced that the last thing the plaintiffs desired was to crush the defendants, who, competitors in business, were relations by blood. The defendants had given an undertaking which seemed to the plaintiffs to be adequate, and in consideration of that the latter were prepared to forgo any claim to damages or costs. The undertaking was not to use in connection with surgical rubber goods the words "Ingram's" or "Ingram's, London," and not to use in connection with their business in surgical rubber goods any name or style containing the word "Ingram" without adequately distinguishing their goods from those of the plaintiffs. Upon this all proceedings would be stayed. The defendants desired to use up certain envelopes they had had printed, and he was willing that they should be able to use them up to the end of the week, but no longer. Mr. Whitehead thanked his lordship for his assistance in enabling the parties to reach a settlement. His lordship said he thought they had displayed a very wise and reasonable spirit.

New Companies and Company News

P.G. means Private Company and **R.O.** Registered Office.

WM. KNOWLES (BEBINGTON), LTD. (P.C.).—Capital £500. Objects: To take over the manufacture of a chemical preparation known as "Kar-ka-leen," prepared or invented and manufactured by W. Knowles. R.O.: 1 Acres Road, Bebington.

MCLENNAN & CO., LTD. (P.C.).—Capital £250. Objects: To acquire the chemist's business known as Haynes, High Street, Honiton. The directors are: G. H. S. McLennan and Mrs. Daisy M. M. McLennan. R.O.: High Street, Honiton.

JOHN A. DAVIDSON (ABERDEEN), LTD. (P.C.).—Capital £800. Objects: To take over the business of James A. Horton, chemist and druggist, 4 Auchmill Road, Bucksburn, Aberdeen. The directors are: J. A. Davidson, A. M. Gair, and T. D. Davidson. R.O.: 4 Auchmill Road, Bucksburn, Aberdeen.

J. N. FIRTH, LTD. (P.C.).—Capital £1,800. Objects: To acquire the business now carried on by Annie Firth, as executrix of the will of the late J. N. Firth, at 30 Rosslyn Hill, Hampstead, N.W., and to carry on the business of pharmacists, chemists, druggists, dry-salters, etc. The directors are: Annie Firth and J. Stephenson, M.P.S. R.O.: 30 Rosslyn Hill, Hampstead, London, N.W.

VAN LIER BROS., LTD. (P.C.).—Capital £2,000. Objects: To acquire the business of Van Lier Bros., carried on at 3 & 4 Eden Street, Hampstead Road, N.W., and to carry on the business of manufacturers of and dealers in anatomical, orthopaedic and surgical appliances, crutch, chair and stretcher makers, chemists, druggists, etc. The directors are: S. Van Lier and L. Van Lier. R.O.: 3 & 4 Eden Street, Hampstead Road, London, N.W.1.

PHYLAXITE PRODUCTS, LTD. (P.C.).—Capital £5,000. Objects: To acquire certain formulæ, together with the name of "Phylaxite," which has been registered in England, and to carry on the business of manufacturers of and wholesale and retail dealers in such products, manufacturing and distributing chemists, dentists and opticians, etc. The directors are: H. P. Lake, W. Lee and J. P. Watkins. R.O.: 37 Walbrook, London, E.C.

UNITED POTASH CO., LTD.—Capital £50,000. Objects: To carry on the business of chemists, importers, exporters, manufacturers and refiners of and dealers in chemical, industrial and other preparations and articles, compounds, potash, salts and fertilisers, manufacturers and refiners of and dealers in proprietary articles of all kinds and of chemical, photographic and scientific apparatus and materials, etc. R.O.: 61 and 62 Lincoln's Inn Fields, London, W.C.2.

MCDUGALL & YALDING, LTD. (P.C.).—Capital £100. Objects: To carry on the business of chemical manufacturers, agricultural and general chemists, druggists, dry-salters, farmers, gardeners, agriculturists, timber merchants and producers, chemical and agricultural and horticultural experts, manufacturers of and dealers in all kinds of sheep dips and cattle dressings, disinfectants, fertilisers, chemical manures, and insecticides, etc. The directors are: Sir Richard A. Cooper, Bt., A. D. Robertson, C. Timson, and D. S. A. McDougall. R.O.: 47 Russell Square, London, W.C.1.

MCDUGALL & ROBERTSON, LTD. (P.C.).—Capital £5,000. Objects and all other particulars same as McDougall & Yalding, Ltd.

WHITE, TOMKINS & COURAGE, LTD.—The profit for the year ended March 31, 1927, was £56,047, and the net profit was £48,167, plus £20,952 brought in. The directors recommend a dividend on ordinary shares of 10 per cent., carrying forward £22,120.

HINDLEY'S PHARMACY, LTD.—At a meeting held at Platt Bridge, Lancashire, on May 30, it was resolved that this company be wound up voluntarily. Mr. A. B. Slack, 15 Christ Church Avenue, West Didsbury, Manchester, was appointed liquidator.

NATIONAL DRUG AND CHEMICAL CO. OF CANADA.—The net trading profit for the year was £13,208, which with income from investments in other companies, £9,821, makes £23,030. The directors state that while this total will not warrant resumption of dividends, yet it shows an improvement when compared with the £9,069 for year ended January 31, 1926, and the loss of £6,858 for year 1924-25. The surplus of assets over liabilities on January 31, 1927, was £768,691.

CASSEL CYANIDE CO., LTD.—The directors announce that they had received an offer from Imperial Chemical Industries, Ltd., to exchange shares on the following basis: One £1 ordinary share in Imperial Chemical Industries for two existing 5s. Cassel shares. One 10s. deferred share in Imperial Chemical Industries for five existing 5s. Cassel shares. Imperial Chemical Industries shares to rank for dividend from January 1, 1927, and Cassel shareholders to retain their rights in respect of the interim dividend declared on May 13. The Cassel directors have resolved to recommend their shareholders to accept the offer.

STAFFORD & STAFFORD, LTD.—A meeting of creditors was held recently at 150 Southampton Row, London, W.C., when Mr. L. G. Woods, liquidator in the voluntary liquidation of the company, reported that the liabilities to unsecured creditors were £1,820. The assets were estimated to realise £230. There was a debenture for £1,000, which was not fully covered, and unless the goodwill of the business could be sold for a substantial amount there would be nothing for the unsecured creditors. The company was registered in 1922 with a nominal capital of £1,000, and was formed to carry on the business of manufacturers and vendors of proprietary remedies and to enter into an agreement for the acquisition of the right to manufacture the "Chas. Stafford" remedies for rheumatism, etc. He was of the opinion that if the rheumatism-cure part of the business could be disposed of it would realise a fairly substantial figure. He was continuing the business as a going concern. A resolution was passed confirming the voluntary liquidation, and an advisory committee was appointed.

BOOTS PURE DRUG CO., LTD.—The thirty-ninth annual meeting was held on June 9 at the office of the company, Nottingham, Mr. John C. Boot, J.P. (chairman of the company), presiding. In moving the adoption of the report (*C. & D.*, June 4, p. 672), the chairman commented on the various items on the balance sheet and the profit-and-loss account. They would notice, he said, that the trading profit was £789,146, against £849,645 in the preceding year. Not only did they suffer from the general strike and the coal strike in the same way as other manufacturing firms—for example, fuel alone cost £10,000 more—but on the retail side of the business a large number of branches in mining areas were badly affected. On the other hand, a good many branches hardly felt the strike at all, and these helped to achieve what he called a reasonably satisfactory result. Referring to extensions of business, the chairman announced that the company had bought 200 acres of land between Dunkirk and Beeston, which, although not ideal, would be large enough to take care of future expansion. They proposed to build a section for the soap and toilet departments, and develop the remainder of the land as and when required. Reorganisation of the scientific and research side of the business had occupied their attention during the year, reference to which has already been made in the *C. & D.* Valuable assistance had been afforded to their research department by the Middlesex Hospital, London, W.1, and, in particular, by the able staff of the biochemical department of the Bland-Sutton Institute of that hospital. In recognition of this assistance the company have endowed a scholarship in this institute, and, in addition, have obtained facilities for a young man of promise to work under the guidance of the head of that department. As regards overseas trade, two of the directors, Mr. Church and Mr. Greenwood, and one of the general managers, Mr. Thomas, made an extensive tour of India, Burma and the Straits Settlements, visiting agents and customers and thoroughly investigating the possibilities for further development out there. The company had now 800 shops open in Great Britain, and looked forward with every confidence to the future. The report was unanimously adopted.

Paris Perfumery Exhibition

BY THE "C. & D." PARIS CORRESPONDENT.

THE "Salon de la Parfumerie" in the Palais de Glace, in the Champs Elysées, was opened by the Minister of Commerce on June 1. This new venture, organised by the "Revue des Marques de la Parfumerie," is quite a pretty little show of French perfumery; just big enough to be worth the entrance fee, yet small enough to enable the usual "exhibition headache" to be avoided. I have seen a certain number of perfumery courts at international and other exhibitions, but cannot remember any where the stands, while remaining so thoroughly individual, were grouped in a more harmonious whole of such pleasing aspect. Almost every one of the fifty stands on the ground floor, devoted to the retail trade, has some special artistic or ingenious feature. Houbigant, for instance, reproduces his quaint little shop as it existed in 1827. Piver plants his show cases of "Volt" and "Fetiché" behind a pretty trellis-work with rambler roses. Mirrors, novel glasswork and furniture on artistic lines draw attention to the D'Orsay stand with its "Dandy" perfumes—was not D'Orsay the leading dandy of his day? Bourjois houses his "Mon Parfum" and other specialities in a charming little Louis XVI boudoir. Cheramy's stand is in sombre shades, to show up the illuminated revolving glass case at the back, which presents in turn "Fausta," "Capy," and Eau de Cologne. Roger and Gallet's corner stand is decorated with designs of orange-bushes. At their special "Eau de Cologne Jean Marie Farina" stand some curious old advertisements of a century ago are shown. Dorin has a double stand; one half, "La Loge de Dorine," is hung with "toile de Jouy"; and a Louis XV shepherdess, with powdered hair, waits at the receipt of custom, while in the crimson Oriental "Boudoir de Dorine" the saleswoman wears an embroidered Chinese costume. The "Narcisse Bleu" has a moonlight setting, the "Neige de Cévennes," a mountain scene; Molinard shows his "Christmas Bell," in bell-shaped bottles, and his concrete perfumes in tiny metal receptacles about the size of pillboxes, with the Provencal furniture that he specialises in his Grasse showrooms. The really artistic nature of the old drugpot is underlined by the use of a few as ornaments by a place Vendôme firm, the "Institut de Beauté." Lubin's corner stand is draped with an immense gilt Oriental embroidery and his "Eau" and other products are in curiously original wall-cases. Many firms distribute small samples or offer sprays of perfume; and with music upstairs, carpets everywhere, the variety and beauty of the stands, and the perfumed atmosphere, the exhibition seemed to have drawn a satisfactory number of visitors, mostly ladies, of course. Some of the male visitors, I fancy, were taking notes on the attractive presentation of the goods. Upstairs, in a narrow gallery, are the wholesalers and the accessories. Two Grasse firms, Chiris and Bertrand Frères, have some charming coloured photographs of their flower fields, which redeem the necessarily prosaic character of the containers of raw products. Pilar's trellis-work, fountain and Florentine vases serve the same purpose. Mero and Boyreau show a sample bale of *Cystis labdanum* and various samples of raw perfumery. Lautier Fils have an attractive oil-painting of Grasse showing their factory, as well as photos. Robertet & Co.'s model of a factory plant for extraction of flowers by solvents is interesting to those, like myself, who have seen this up-to-date process. Powder puffs, artistic cartonnages and containers of all kinds also figure in this section, and seemed to form quite an attraction to visitors. The Retrospective Section is, like all the rest, quite small, but excellently presented. One glass case contained quaint old books: Poncelet's "Chimie du Goût et de l'Odorat" (1755); "Les Parfumeurs Français" (printed in Louis XIV's day); the "Parfumeur Impérial" (1809); and twenty other curious volumes. The others showed some delightful old porcelain pots and accessories; for instance, the little Chelsea china figures of the eighteenth century (made to contain perfumes), old perfume flasks, a bottle of Lubin's "Taglioni Perfume," with an engraving of the famous dancer on the label, etc. Dorin shows his 1816 billheads.

Westminster Wisdom

Notes on Parliamentary Matters

MARKING GAS CYLINDERS

Colonel Day asked the Minister of Health recently whether his attention has been drawn to the case in which an anaesthetist in a London hospital gave a patient at an operation gas from the wrong cylinder which caused the death of the patient from asphyxia; and, in view of the similarity of cylinders containing different gases used at operations, will he consider the introduction of legislation compelling the makers of these gas cylinders to have them marked more distinctively, and with a fitting of an entirely different tap?

The Minister of Health (Mr. Chamberlain): The answer to the first part of the question is in the affirmative. As regards the second part, no similar accident has been reported, and the case appears to be too exceptional to call for legislation.

SHOP HOURS INQUIRY

A further sitting of the Shop Hours (Early Closing) Committee was held on June 15. Evidence was given by Councillor T. B. Ball, treasurer of the London and Suburban Traders' Federation, with a membership of 10,000. The witness said that the Federation had opposed the Shops Bill of 1924, which laid down 7 o'clock as the hour for compulsory closing of all shops. In May 1926 the policy of the Federation was stated in the following terms, "The compulsory closing of all shops, with the single exception of refreshment places, not later than 8 p.m." Mr. F. E. Gordon, organising secretary of the "Daily Mail" Ideal Home Exhibition, said that he wanted genuine exhibitions to be exempted from the Shops Acts. Councils should not refuse reasonable requests for a *bona-fide* exhibition, but, as a safeguard, they should be able to appeal to the Home Secretary. Evidence was also given by Mr. G. Melvin, town clerk of Bridlington, who stated that on August 15, 1924, a resolution was unanimously passed by the Council asking that the Acts should be suspended from the middle of June to the middle of September. He had spoken to the town clerk of Scarborough, who said that his Council shared the same view.

PRICE-FIXING ARRANGEMENTS

Mr. R. Morrison asked the President of the Board of Trade on June 14 whether his Department has any information as to the growth of price-fixing associations; and to what extent articles of food are included in their operations?

Sir P. Cunliffe-Lister, in reply, referred the member to the memorandum on "Combination in Industry and Trade," prepared by the Board of Trade and published in the Balfour Committee's volume, "Factors in Industrial and Commercial Efficiency." As regards the second part of the question, in certain parts of the country associations of traders in milk, flour and bread fix the prices at which those articles shall be sold by their members, and there are price-fixing arrangements in respect of certain proprietary brands of foodstuffs.

Mr. A. V. Alexander: Has not there been a new association since the date of the Balfour Committee, the Grocers' Association, and has not the Proprietary Articles' Association, covering 8,000 commodities, been declared by the Canadian Government to be an illegal organisation, and will not the right hon. gentleman follow the young and virile example of the Dominion?

Sir P. Cunliffe-Lister: It is very easy to put general questions of that sort. But this House has on many occasions debated the general question of interference with British trade and has always come to the same conclusion.

BULGARIAN ROSE CROP.—The 1927 Bulgarian rose crop promises to be very good both in point of quantity and quality. Picking has begun in the Kazanlik and Karlovo districts.

SLOGAN FOR HAIR TONICS.—Addressing the Association of Educational Committees in London on June 9, Sir George Lunn, Newcastle, remarked: "A hair on the head is worth two on the brush."

The Progress of Pharmacy

AND ALLIED SCIENCES

PHARMACY

Stability of Eserine Solutions.—J. C. Krantz and F. J. Slama ("Journal of the American Pharmaceutical Association," Vol. XVI, No. 5, p. 412) find that solutions of eserine sulphate and eserine salicylate can be kept colourless for a considerable period of time by adjusting the hydrogen ion concentration to between $\text{pH } 2$ and $\text{pH } 3$. The best practicable method of stabilising these solutions is to saturate the water with carbon dioxide and store under an atmosphere of this gas. Such carbonated solutions kept free from colour over the experimental period of seven months.

Stabilisation of Aconite Preparations.—E. E. Swanson and C. C. Hargreaves ("Journal of the American Pharmaceutical Association," Vol. XVI, p. 296) show by biochemical assays on both guinea pigs and white rats that the pH value of the galenical controls the deterioration of aconite tinctures and fluid extracts. The series of tests represented the use of more than 1,000 guinea pigs and at least 900 white mice. The curves of five series of experiments agree remarkably well by guinea pig and mouse method up to the stability point ($\text{pH } 3.3$), but thereafter the former indicated the greater deterioration. Weight for weight the mouse receives six to ten times more than guinea pigs, so that alcohol injection may be a factor contributing to this difference. The intraperitoneal injection in mice and subcutaneous administration in guinea pigs also undoubtedly causes a difference. It is recommended that aconite preparations have a pH value of 2.5 and not less than 3.0 in order to prevent deterioration. The amount of hydrochloric acid required depends on the amount of alkaloids and inert material present in each lot of drug.

Modern Pharmaceutical Manufacture is typified in "Industrial and Engineering Chemistry" for May by a description of the facilities in a new five-story building erected for Eli Lilly & Co., Indianapolis. The operations described by Mr. Eli Lilly himself relate to percolation of alcoholic galenicals. The drug mills of the high-speed disc type are enclosed each in a small room six to eight feet square, fitted with exhaust fans, the miller standing outside. Metal drug boxes in an airtight compartment receive the powdered material. With the exception of a few vegetable products, which are best stored in a crude state, drugs are ground immediately after inspection and garbling. The drug boxes are taken by lift to the drug mixer. The top of this is at floor level, whilst its outlet is directly over a line of movable percolators. Placing the percolators on a conveyor enables the operations to be performed in one place, whether packing the moistened drug or dumping the exhausted residue. The conveyor is worked by a 20-h.p. electric motor, the chain drive being designed to withstand a 35,000-pound pull. The speed of 20 feet per minute takes the whole set of percolators around about four times a day. Evaporation and waste of alcohol is avoided by making all its movements in closed lines. Thus it flows by gravity from the tank car to 12,000-gallon storage tanks in the basement, where it is forced by compressed air into the smaller tanks for different strengths of alcoholic menstrua. Five pipe lines feed the various percentage alcohols under air compression to the percolator station. The exhausted drug drops down

a chute into a rotary vacuum drier, and the recovered alcohol runs thence to a rectifying column. The exhausts of all vacuum pumps and the outlets of all storage tanks are connected to a scrubber for alcohol vapour. Percolators and receivers are connected by rubber tubes so that the displaced air proceeds to the top of the percolator to replace the menstruum. A second conveyor line receives the percolators for "ageing," and at one end of this filtering, finishing and bottling are done.

Revision of Japanese Pharmacopœia.—The following are some of the more important modifications made in the Pharmacopœia of Japan, fourth edition:—

Acidum Acetylsalicylicum.—The following new test has been added: The filtrate, obtained after adding 20 c.c. of water to 1 gram of the acid and shaking for five minutes, should not be affected by solution of hydrogen sulphide, solution of silver nitrate, or by solution of barium nitrate.

Acidum Benzoicum.—Melting point 120° to 122° C.

Acidum Citricum.—The test for the presence of tartaric acid has been altered to read: When 1 gram of the acid is heated with 10 c.c. of sulphuric acid on a water bath for one hour, the resulting coloration should stop at a pale yellow and not develop into a brown; also, a solution of 1 gram of the acid in 2 c.c. of water should not show any turbidity when 5 c.c. of alcohol is poured in, following the addition of 10 drops of solution of potassium acetate.

Adeps Lana Anhydricus.—The test for free acid now reads: A solution of 2 grams of the fat in 10 c.c. of ether should remain colourless on the addition of 2 drops of solution of phenolphthalein, and acquire a red coloration on the addition of 0.3 c.c. [instead of 0.1 c.c.] of $\text{N}/10$ alcoholic potassium hydroxide.

Ether.—An additional test has been included: Add 1 c.c. of Nessler's solution to 10 c.c. of ether, and shake. No other change than the production of a slight opalescence should take place.

Antipyrinum.—The fifth paragraph now reads: An aqueous solution (1:2) of antipyrine should be colourless and neutral in reaction; also, a solution (1:20) should not be affected by solution of hydrogen sulphide, or a solution acidulated with nitric acid by solution of silver nitrate, or by solution of barium nitrate.

Argentum Proteicicum.—New test: 10 c.c. of a 1:50 solution of protein silver to which 10 drops of solution of sodium hydroxide have been added should not evolve ammonia on heating to boiling.

Bismutum Subsalsicylicum.—The test for nitrates now reads: Add 0.1 gram of sodium salicylate and 5 c.c. of water to 0.5 gram of bismuth subsalsicylate and superimpose the whole on 5 c.c. of sulphuric acid in a test tube. No reddish or brownish ring should be formed immediately at the line of contact of the two liquids.

Chininum Hydrochloricum.—Additional test: 1 gram of quinine hydrochloride should dissolve almost completely in 7 c.c. of a mixture of 2 volumes of chloroform and 1 volume of alcohol.

Extractum Cascara Sagrae Fluidum.—The last paragraph now reads: When 10 c.c. of water is added to 1 gram of fluid extract of cascara sagra, a yellowish-brown precipitate is formed. Filter; divide the filtrate into two portions; to one portion add 1 drop of glacial acetic acid, and to the other portion, after diluting it

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with 6 c.c. of water, 2 drops of warm solution of mercuric chloride. A turbidity is produced in the former, and a flocculent yellow precipitate in the latter.

Extractum Colombo.—Additional test: The filtrate obtained from 0.1 gram of extract of calumba in 5 c.c. of dilute sulphuric acid, acquires a red colour on the addition of 3 drops of solution of bromine.

Glycerinum.—Additional tests: On boiling a mixture of 5 c.c. of glycerin and 5 c.c. of dilute sulphuric acid, no yellow colour should be produced. No coloration should occur on mixing 4 drops of glycerin with 2 c.c. of sulphuric acid.

Homatropinum Hydrobromicum.—Melting point 209°–212° C.

Iodoformum.—One gram of iodoform should yield a clear solution with 10 c.c. of carbon disulphide.

Pancreatinum.—Additional tests: No blue or purplish-red colour should be produced on boiling 1 gram of pancreatin with 20 c.c. of water, and, when cool, adding 1 drop of solution of iodine. Add 20 c.c. of ether to 2 grams of pancreatin, digest in the cold for 30 minutes, shaking occasionally. Filter, evaporate 10 c.c. of the filtrate, and dry the residue at 100° C., the latter should not weigh more than 0.03 gram.

Radix Ipecacuanha.—Additional test: Boil 1 gram of powdered ipecacuanha root with 10 c.c. of dilute alcohol for one minute, and filter; a reddish-orange colour is produced on adding 10 drops of nitric acid and a little calcium chloride to 5 drops of the filtrate.

PHARMACEUTICAL CHEMISTRY

A New Reaction for Eugenol.—C. J. Enklaar ("Chemisch Weekblad," March 5, 1927) gives the following new reaction for eugenol in essential oils. If the oil be shaken with a solution of manganic sulphate in dilute acetic acid a red oily precipitate is formed which is soluble in benzene, and which yields a green mass when fused with potassium nitrate and hydroxide. The test solution can be prepared by gently heating a mixture of anhydrous manganous sulphate and potassium permanganate with glacial acetic acid.

Determination of Free Mercury.—At the April meeting of the Society of Public Analysts, H. B. Dunncliff and Kishen Lal described the following method of determining free mercury in commercial products. The main constituents of the substance containing free mercury are removed by extraction with a suitable solvent. The residue is treated with bromine water, the resulting mercuric bromide is dissolved in alcohol, and the mercury is precipitated as mercuric sulphide, which is filtered off and weighed in a Gooch crucible. The method is shown to give accurate results with various commercial products, such as mercury ointment, grey powder and mercury fulminate.

A Stable Colloidal Lead Solution.—M. Telkes ("Journal of the American Chemical Society," Vol. 49, No. 5, p. 1,382) shows that the precipitation of lead hydrosols (used in cancer treatment) is due to atmospheric oxygen and carbon dioxide. A method is described of preparing a colloidal solution of lead in an indifferent atmosphere of hydrogen. This consists of using the enclosed arc (between lead electrodes submerged in conductivity water) and the method of undamped oscillations. A d.c. generator of 500 volts is employed, with a condenser (0.034 microfarad) connected parallel to a "spark micrometer," the current intensity being regulated by a resistance. When the current is sent through the electrodes the spark is blown out into the liquid, and the colloid rises in black clouds. This black solution is removed when it attains a sufficient concentration. Hydrogen passes during preparation, and the solution is sealed off under this gas. It has not been possible so far to maintain a stable solution with a higher concentration than 0.2 per cent. of lead.

The Detection of Ephedrine.—K. Tsiang and E. D. Brown ("Journal of the American Pharmaceutical Association," Vol. XVI, No. 4, p. 294) have tried the various alkaloidal tests on ephedrine sulphate. Negative colour reactions were obtained with the commonly employed

reagents. These included concentrated mineral acids (sulphuric, nitric, or hydrochloric), sulphuric acid with sugar, sulphuric acid with potassium dichromate, Froehde's reagent, and ferric chloride solution. Four alkaloidal reagents gave crystalline precipitates fairly characteristic of the alkaloid, and which may be used to identify ephedrine. The tests described are:—

Millon's Reagent on addition to a drop of 1 in 50 dilution of alkaloid on a microscopical slide forms beautiful star-like or leaf-like crystals.

Gold Chloride is a sensitive test, 1 in 1,000 solution giving striking needle-like crystals, some of which are arranged in rosettes.

Platinum Chloride in 1 in 1,000 dilution yields crystals inclined to be acicular and arranged in branch-like grouping.

Kraut's Reagent in a dilution of 1-1,000 or 1-500 also forms needle crystals in branching form, but the appearance is more dense or bushlike.

In all cases the formation of crystals occurs slowly. Epinephrine and tyramine, allied in chemical structure, give crystal formations which might be confused with ephedrine in the case of Kraut's reagent, but both the former contain a phenolic OH group and give a colour reaction with ferric chloride.

Potency of Digitalis.—The higher activity of fertilised digitalis plants and of *Digitalis lutea* is an outstanding feature in an examination by M. I. Sparks of the potency of various samples of digitalis leaves from plants cultivated in British Columbia ("Journal of the American Pharmaceutical Association," Vol. XVI, No. 3, p. 203). The results in order of potency by the cat method of assay are:—

Source	M.L.D. per Kilom. cat	Order of Potency (cat)	M.L.D. per Kilom. frog	Order of Potency (frog)
<i>Digitalis purpurea</i> .. (fertilised with nitrate)	69.40mgm.	1	0.40mgm.	1
<i>Digitalis lutea</i> .. (Digitalis standard powder)	90.10 "	2	0.60 "	3
<i>Digitalis purpurea</i> .. (English)	93.70 "	3	0.52 "	2
<i>Digitalis purpurea</i> .. (white blooms)	96.55 "	4	0.60 "	4
<i>Digitalis purpurea</i> .. (Canadian)	114.85 "	5	0.72 "	6
<i>Digitalis purpurea</i> .. (Canadian)	116.50 "	6	0.64 "	5

Comparisons of Canadian-grown digitalis show a negligible difference between leaves from plants with purple blooms and plants with white flowers. The relative number of plants with white flowers was quite large, and the separate assay was undertaken to ascertain if their inclusion affects the potency of the mixed leaves. Sodium nitrate as a fertiliser increased the glucosidal content of digitalis leaf and increased the yield per acre. *Digitalis lutea* was more potent than either of the *D. purpurea* varieties, the difference being more striking by the cat method of assay. English digitalis is definitely more potent than Canadian *D. purpurea*, but weaker than the *lutea* sample grown in British Columbia. It is stated that Canadian-grown digitalis in the mixture of samples used commercially is up to average strength.

Impurities in Ether.—S. R. Wilson ("Lancet," I, 1927, p. 1117) reports that in October he commenced an investigation as to the cause of obscure deaths occurring during ether anaesthesia and characterised by general convulsions. It was clear that there was a definite relationship between the administration of ether and these effects, and yet pure ether could not be held accountable, having been in general clinical use for a matter of seventy years without any previous mention of such symptoms. It appeared probable that the poisonous effects were due to the presence of impurities, and that such impurities had either recently arisen in manufactured ether or were increased in amount by modern methods of administration, or both. The former supposition was not altogether unlikely, seeing that between 1919 and 1921 various papers appeared in which it was contended that pure ether was not an anaesthetic and a tendency developed to use impure ethers on this account. Whilst such a statement was disproved by the fact that

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ether had been used over fifty years with satisfaction, and also by the scientific work of Dale, King, and von Leeuwen, this impression still persisted amongst practical anaesthetists. The common impurities liable to be present in anaesthetic ethers are acetaldehyde, "peroxide," ethyl sulphide, ketones, and alcohols. The first three of these have been shown by Wesley Bourne to be toxic agents if present to the extent of $\frac{1}{2}$ per cent. or more. The author reports that acetaldehyde and "peroxide" have been definitely demonstrated to be present and afford adequate explanation of the anomalous symptoms. The chemical properties of aldehyde are such as would account for these effects, for it is a powerful reducing agent, and would tend to cell asphyxia, and the subsequent formation of acetic acid would increase the H-ion concentration of the tissue fluids and equally favour convulsions. The aldehyde appears to volatilise first and the peroxide seems to favour aldehyde formation. The detrimental effects of these impurities are most pronounced in patients already suffering from toxæmias. It is not clear as to why these impurities should apparently have only appeared in toxic amounts since the beginning of 1926. Prof. Lapworth suggests there may have been some change in the method of manufacture. The writer is of the opinion that the change probably lies in the spirit used in manufacture. The question of ether purity requires further investigation, and strict standard tests are required for application to all ethers supplied for the purpose of general anaesthesia.

Simple Method of Making Sodium Aurothiosulphate.—

Owing to Möllgaard's method of preparation of sodium aurothiosulphate (sanochrysin) not being available, the following process of making this gold salt for the treatment of tuberculosis has been developed by Herman Brown ("Journal of the American Chemical Society," Vol. 49, No. 4, p. 958). The procedure has the advantage over the mode of McCluskey and Eichelberger (using caesium auric chloride as an intermediate) that it eliminates the need for caesium nitrate, which has increased enormously in price owing to difficulty of supply. The new method is as follows:—

Hydrochloro-auric acid, 41.2 gm. (0.1 mole) is dissolved in 75 c.c. of water and solution of sodium hydroxide (40 per cent.) is added dropwise until a faintly alkaline reaction is obtained to litmus, and the gold hydroxide is precipitated. The entire contents of the beaker are then added to 102 gm. (0.4 mole plus 10 per cent. excess) of hydrated sodium thiosulphate dissolved in 200 c.c. of water, and the mixture is stirred mechanically. At this point no apparent change takes place in the gold hydroxide suspension. After about five minutes, and while stirring, nitric acid is slowly added from a dropping funnel, the rate of addition of the acid being so regulated that the red colour formed in the mixture from any one drop is nearly or completely discharged before the next drop enters. (The red coloration is probably due to the formation of the sodium salt of auric acid). About 45 c.c. of acid is required, all the gold hydroxide dissolving when about half of the acid has been added. The end of the reaction is indicated when the red colour is no longer produced, and care should be taken to avoid excess of acid. At the end point the solution is nearly colourless and neutral to litmus paper. Stirring is now continued for about five minutes longer, or until the first appearance of a faint turbidity (due to sulphur and some gold sulphide). The solution is then filtered and the filtrate treated with four volumes of alcohol. The precipitate is white, but is contaminated with sulphur and non-crystalline as a rule. On dissolving in the minimum amount of water, filtering from sulphur, and re-precipitating with alcohol (4 vols.), the precipitate is crystalline and ordinarily sufficiently pure enough for medicinal use, a very pure product being yielded on a further recrystallisation. The final product is sucked as dry as possible on a Büchner funnel. Overnight drying in a vacuum desiccator above sulphuric acid suffices to produce a finely crystalline white powder soluble to a water-clear solution in two parts of water, and giving nearly theoretical values for gold and sulphur.

The compound need not be preserved under anhydrous ether (as recommended by McCluskey and Eichelberger), decomposition being greatly retarded by keeping in well-stoppered amber bottles in a refrigerator. Specimens

were unchanged at the end of five months. In amber ampoules, sealed under slightly reduced pressure, the compound will keep at room temperature for at least three months.

Phytopharmacological Examination of Digitalis.—

D. I. Macht and J. C. Krantz ("Journal of the American Pharmaceutical Association," Vol. XVI, No. 3, p. 210) have extended their phytopharmacological studies to digitalis. The toxicity of digitalis preparations was tested by measuring the inhibitive action of the drug on the single straight roots of seedlings of *Lupinus albus*. The procedure adopted is as follows:—

The dry seeds are soaked overnight in tap water at ordinary room temperature and planted hilum downwards in finely ground moist sphagnum moss on the following day. The seeds are then kept at 20° C. in the dark, and on the third day have convenient roots of 20 to 30 millimetres in length. The length thereof can be accurately measured because of a definite line of demarcation indicating the border line between root and stem. After recording the exact length of its root, the seedling is placed in an upright test-tube of hard glass containing a nutrient solution, the seed resting on the upper edge of the tube. The solution employed is a so-called "Shive" solution prepared by mixing 0.5 molar solutions of calcium nitrate (10.4 c.c.), magnesium sulphate (30 c.c.), and mono-potassium acid phosphate (36 c.c.) in the amounts in parentheses with distilled water to produce one litre. Normal growth is observed in nutrient solution made by mixing equal parts of Shive solution and distilled water containing alcohol equivalent to that in the amount of digitalis tincture under test comparison with this control. Whilst a digitalis solution markedly inhibits growth, this was found not to be due to the presence of alcohol. Care, however, is taken to maintain alcoholic strengths comparative in order to determine the effect of digitalis apart from that possibly due to alcohol. After the solutions have been prepared and the measured seedlings immersed therein, the plants are placed in the dark and kept for 20 to 24 hours at a constant temperature, preferably in a thermostat. In the experiments temperature variations were followed by a thermograph, but these fluctuations had no significance as test seedlings and control were under the same conditions always. The result in the digitalis solution is expressed on a percentage of growth in the alcoholic Shive control, and this may be termed the coefficient or index of growth.

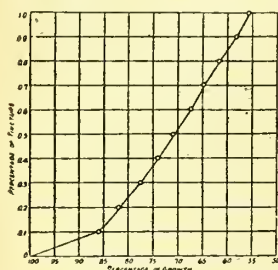
The curve in Fig. 1 is a composite one drawn up as the result of an extensive and intensive study of Tincture No. 1 in Table I below. However, this curve of relation between toxicity and percentage of digitalis solution was found to be practically the same with the other tinctures, so that, knowing the toxicity of a 1 per cent. solution of any given tincture, the toxicity at any other dilution from 0.1 per cent. to 1.0 per cent. could be calculated from the curve for Tincture No. 1, which was used as a phytochemical standard. The results of plants tests on digitalis tinctures recorded in Table I compare very favourably with potencies determined by the cat method of assay:—

Number of Tincture	Plants' Index of Growth (in $\frac{1}{2}$ per cent. solution)	Lethal dose for cat (diluted 1 in 10) c.c. per kilogram.
Tr. digitalis, No. 1	72 per cent.	9.2 c.c.
" " No. 2	76 " "	10.4 c.c.
" " No. 3	70 " "	See Table II
" " No. 4	93 " "	13.7 c.c.
" " No. 5	77 " "	11.0 c.c.
" " No. 6	74 " "	9.3 c.c.
" " No. 7	88 " "	12.0 c.c.
" " No. 8	75 " "	9.8 c.c.
" " No. 9	69 " "	9.1 c.c.
" " No. 10	73 " "	9.4 c.c.

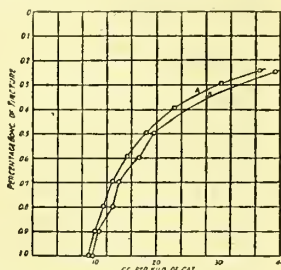
The data by the cat method of assay were found to be more liable to wide variations than those obtained with an average of ten seedlings or more. At times no uniformity in cat units could be obtained at all, this agreeing with the experience of other workers. In the case of Tincture No. 3, the animal assay gave the varied results in Table II, whilst the plant index was practically constant. The explanation for such great variations in animal assay is problematical. Various investigators have shown that the ratio of potassium and calcium ions

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in the blood is of great importance in relation to the action of digitalis bodies, the "pacemaker" being shifted at will. An increase of calcium tends to potentiate digitalis toxicity towards the mammalian heart, and to cause systolic standstill. Potassium increase causes paralysis of the heart muscle and a standstill in diastole. It is possible to make a digitalis preparation much more toxic by adding calcium. Adding a small amount of calcium chloride increased the toxicity of Tincture No. 8 from 9.8 to 8.2 c.c. per kilogram of body weight of cat. Such sophistication is readily detected by the phytotoxic index. This, if anything, is lessened by the addition of calcium chloride, as it produces an improvement in the growth of the plants (potassium chloride also acts in the same way). The plant reaction to calcium in digitalis solutions is thus diametrically opposed to the effect on the heart of the cat. Curve No. 2, obtained with



1.—Concentrations of digitalis and growth of seedlings of *Lupinus albus*.



2.—Concentrations of tincture of digitalis and potency on cat's heart.

varying percentages of Tincture No. 8, shows that the relationship between toxicity and concentration of digitalis is not so uniform in this "cat" curve as in the "plant" (Curve No. 1). The phytotoxic test is claimed to be especially useful in comparing digitalis samples, as a large number can be examined simultaneously in a shorter time, and at less cost than by the cat method. The plant method detects differences in potency by external agencies, and is on this account superior to the animal test:—

TABLE II

Assay of Digitalis Tincture No. 3 by Plant and Cat Methods, showing remarkable variation in cat tests

Number of Experiment	Plant Index of Growth	Lethal Dose for Cat per kilogr. body wt.
1	70 per cent.	7.3 c.c. (Tincture diluted 1:10)
2	70	9.2 c.c. " " "
3	72	11.7 c.c. " " "
4	71	13.1 c.c. " " "
5	73	10.1 c.c. " " "

ANALYTICAL CHEMISTRY

One-Colour Indicators for Acids.—I. M. Kolthoff ("Journal of the American Chemical Society," Vol. 49, No. 5, p. 1218) points out that a number of triphenyl carbinol derivatives containing five or six methoxy groups form excellent indicators which are unique in being coloured in acid solution and colourless in alkaline solution. The principal data are:—

Proposed Name	Scientific nomenclature	Colour range P _H		K _a 15°C.	K _a 100°C.
Hexa-methoxy red	2, 4, 2', 4', 2'', 4''-Hexamethoxytriphenyl carbinol	4.6	2.6	5.1 × 10 ⁻⁴	1.27 × 10 ⁻⁴
Penta-methoxy red	2, 4, 2', 4', 2''-Penta-methoxytriphenyl carbinol	3.2	1.2	1.52 × 10 ⁻²	3.2 × 10 ⁻³
		Colourless	Pink-red red-violet		

Heptamethoxytriphenyl carbinol is also described, but its colour change is so slow as to be useless in titrations. Pentamethoxytriphenyl carbinol 2, 4, 2', 4', 4''- and 2, 6, 2', 6', 2''- configurations were found to range from colourless to pinkish-red and blue-violet respec-

tively at PH 3.3 to 1.3 and 2.8 to 0.8, but these offer no advantage over the pentamethoxy-red above. Hexamethoxy-red and pentamethoxy-red are satisfactory indicators, the salt error being small and in the same direction as with other basic indicators, such as methyl orange. In titrating sodium carbonate, 25 c.c. of decinormal solution required 25.00 and 24.95 c.c. of decinormal hydrochloric acid using hexamethoxy-red, and 25.05 and 25.03 c.c. with dimethyl-yellow as indicator. In titrating borax the same results were obtained as with methyl red. Phosphoric acid may be titrated accurately as a monobasic acid, if a monobasic phosphate solution (PH 4.5) containing hexamethoxy-red is used for comparison, the end point being a barely visible pink. The titration can then be continued, using phenolphthalein as indicator. Ammonia and the alkaloids may be titrated—satisfactorily with hexamethoxy-red, and pentamethoxy-red can be used to determine the PH of gastric juice.

BIOLOGICAL CHEMISTRY

Absorption of Vitamin D.—E. S. Hume, N. S. Lucas and H. H. Smith ("Biochemical Journal," Vol. XXI, No. 2, p. 362) find that vitamin D in irradiated cholesterol can be absorbed from a small area of undamaged skin in amounts sufficient to supply the needs of rats and rabbits. This supports a suggestion by Hess that activation of lanolin by sunlight with subsequent absorption through the skin is a possible source of vitamin D. Almost normal calcification of bones occurred with rabbits on a rickets-producing diet when an area of skin 2.5×3.5 cm. was irradiated for ten minutes three times a week.

The Alleged Action of X-rays on Cholesterol is an opportune subject discussed by I. Hieger ("Biochemical Journal," Vol. XXI, No. 2, p. 407), who finds that the decomposition of cholesterol in solution by x-rays depends upon the presence of chlorine in the solvent. Thus decomposition of cholesterol occurs in chloroform and carbon tetrachloride, but not in benzene. The experiments have an important bearing upon the implication that a similar destruction of cholesterol occurs *in vivo* when tumours are exposed to x-rays, and it is considered that it seems unlikely that any such decomposition of cholesterol can occur in irradiated tissues.

Parathyroid Hormone and Calcium Metabolism.—C. P. Stewart and G. H. Percival ("Biochemical Journal," Vol. XXI, No. 2, p. 301) have attempted to obtain direct evidence as to the mode in which parathyroid hormone exerts its action in controlling the concentration of calcium in the blood stream. They consider that the hormone controls the distribution of calcium between the blood and the tissues by regulating the proportion of total serum calcium which is readily diffusible. It exerts its full action on serum calcium after removal of the alimentary canal, hence control of the rate of calcium absorption is not its working effect. Neither do the parathyroids control the excretory rate of calcium, as no diminution follows the administration of parathyroid.

Vitamin D in Liver Oils would appear not to be derived from diatoms. This is the conclusion drawn from feeding experiments on rats by Joan L. Leigh-Clare ("Biochemical Journal," Vol. XXI, No. 2, p. 368). The marine diatom *Nitzschia closterium* (W. Sm.) *forma minutissima*, which can synthesise large amounts of fat soluble vitamin, has since 1922 been regarded as the ultimate source of vitamins in cod-liver oil, but this research shows that this cannot be a likely source of vitamin D. As the cod is a deep sea fish, some other source than irradiation will have to be sought. There remains to be examined the plankton and smaller fish, which might conceivably be exposed to radiant energy of the proper wave length for the synthesis of vitamin D.

Colour Reactions of Sterol and of Vitamin A.—O. Rosenheim ("Biochemical Journal," Vol. XXI, No. 2, p. 336) observes that the blue pigment produced with arsenic chloride or antimony chloride is typically unstable and fades within a few minutes. Evidence is accumulating that the reaction is specific for vitamin A.

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The artificial chromogen produced by oxidation of cholesterol (with benzoyl peroxide) gives a blue coloration with the above reagents, and suggests a similarity between the carbon system of the sterol molecule and the unknown chromogen from cod-liver oil. The artificial chromogen from cholesterol differs in being unstable when dissolved in natural oils, and its blue pigment remains unchanged for many days. A characteristic difference in absorption spectrum is adduced as a further reason against the identity of the two chromogens, feeding experiments also supporting this view, though the latter are not yet completely conclusive.

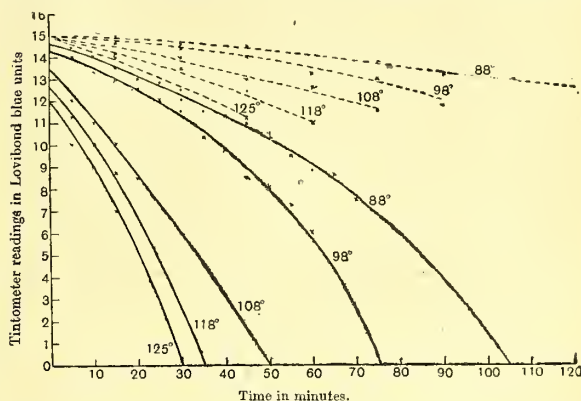
The Precipitation of Diphtheria Toxoid by means of ammonium sulphate has been investigated by A. F. Watson and E. Langstaff ("Biochemical Journal," Vol. XXI, No. 2, p. 426). The substance causing the specific *in vitro* flocculation with antitoxin can be salted out completely from culture filtrates of *B. diphtheriae* by complete saturation with ammonium sulphate. Recovery is complete in the case of filtrates (untreated with any chemical agent) which have been adjusted to pH 8.0 before precipitation. Preservatives, such as phenol, prevent completion of recovery of the active principle. The material salted out by ammonium sulphate is less chemically "pure" relative to the original culture filtrate than the acid precipitate at the isoelectric point, the latter being 111 times as pure as the original toxoid, and containing four times as many Lf. units per mgm. N as the "purest" ammonium sulphate precipitate produced by two-thirds saturation.

Precipitation of Vitamin C from Lemon Juice.—S. S. Zilva ("Biochemical Journal," Vol. XXI, No. 2, p. 354) describes the preparation of a precipitate containing the antiscorbutic factor of lemon juice which is quickly and conveniently prepared. This shows a great reduction in total solids and sugar content as compared with previous fractionation. Lemon juice is neutralised with calcium carbonate and allowed to stand for half an hour, after which time it is filtered. An excess of neutral lead acetate is added. After centrifuging out the precipitate the hydrogen ion concentration of the supernatant solution (pH 5.4) is raised by the cautious addition of dilute ammonia to pH 7.2 (using phenol red indicator). The bulk of the precipitate is much smaller than on adding dilute ammonia to pH 7.0 without the initial centrifuging. The precipitates decomposed in the usual way gave solutions containing the greater part of the vitamin. The fraction prepared by precipitation between pH 5.4 and 7.2 contained less than one-tenth of solids and of reducing sugar present in the total precipitation at pH 7.0. The former forms a suitable starting point for further purification.

Calcium Absorption from the intestine has been studied experimentally by L. Irving ("Journal of Biological Chemistry," June, p. 513). The results are in accord with the solubility of the salt used having some relation to absorption. Increase in serum calcium shows that rapid absorption occurs with highly soluble neutral calcium chloride solution, the rate of absorption showing a steep rise followed by maintenance at a new level. The greatest absorption and increase in serum content of calcium followed the administration of calcium chloride acidified with acetate buffers. The slowness with which calcium is absorbed from a solution of calcium chloride buffered with citrates as compared with neutral or acetate solutions conforms with the smaller solubility of calcium citrate. No consistent difference was noted between the absorption from acid as compared with alkaline solution of calcium lactate. The greatest apparent increase amounted to only one-sixteenth of the calcium lactate available. From the fluctuations in calcium content of the serum it would appear that elimination and absorption are at work together, the calcium level at any time being a product of these two factors. The later stages of absorption of calcium lactate showed a decline in serum calcium, as if a limit had been reached beyond which excretion exceeded absorption. The experiments were carried out on dogs under

ether anaesthesia, the calcium solutions being injected directly into the upper part of the intestine. Though conditions were abnormal, they were comparable, the concentrations being such as to give decisive results, but not severe enough to be immediately fatal, as shown by the animal surviving up to seven hours. The author concludes that the solubility conditions are of considerable importance in determining the absorbability and absorption of calcium, the order of the salts tested being:—Acid acetate > neutral chloride > acid citrate > acid lactate > alkaline lactate.

Vitamin A Destruction.—F. Wokes and S. G. Willmott ("Biochemical Journal," Vol. XXI, No. 2, p. 419) have studied the effect of aeration at different temperatures on the rate at which vitamin A is destroyed in cod-liver oil. The course of oxidative change was followed by means of colour tests for the vitamin. Qualitative agreement was obtained between four tests.



These were concentrated sulphuric acid, phosphorus pentoxide, arsenic trichloride, and antimony trichloride, the last two giving the same end-point for complete destruction of the vitamin. The continuous curves in Fig. 1 depict the effect of aeration at various temperatures on the change in vitamin content of cod-liver oil as measured in blue units by a Lovibond tintometer, using antimony trichloride in anhydrous chloroform as reagent. The effect of heat alone (without aeration) is shown by the broken lines.

Ergosterol as the Parent Substance of Vitamin D.—The research recorded by O. Rosenheim and T. A. Webster ("Biochemical Journal," Vol. XXI, No. 2, p. 389) is likely to become a classic in two respects, as it is the result of international team work in spectroscopy, chemistry and biology on the identification of a *previtamin* (or vitamin precursor). The delicacy of biological test is emphasised by an impurity in a well-crystallised substance such as cholesterol escaping chemical detection for over a hundred years owing to its small proportion (1:2000). The rapid progress of the research was due to spectroscopic test replacing tedious animal experiment. Though destruction or absence of previtamin is rapidly proved by a negative spectroscopic result, animal experiment still remains indispensable in confirming positive spectroscopic evidence. A review is given of the considerations leading up to the suggestion by Professor Windhaus that "previtamin may be related to, if not identical with, ergosterol." Ergosterol was found on spectroscopic examination by the authors to have characteristic absorption bands in the ultraviolet region identical with those of cholesterol, but of enormously greater intensity, estimated to be 1,500-2,000 times as strong as that of brain cholesterol. The absorption bands disappear on irradiating ergosterol (as is the case with cholesterol), and the product has also lost the property of being precipitated by digitonin. If previtamin were ergosterol, irradiated ergosterol should possess antirachitic activity in correspondingly small doses, which was fully confirmed by biological tests on rats. A daily

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dose of 1/10,000 mgm. of irradiated ergosterol cured and prevented rickets in rats kept on a rachitogenic diet. The indications are that the limit activity will prove to be less than 1/50,000 mgm. Irradiated ergosterol is therefore the most potent antirachitic substance known, 5 mgm. being equal to about one litre of a good cod-liver oil. A dose 10,000 times the recognised effective dose produced no obvious ill-effects on rats. A 1:2,000 solution of ergosterol absorbs all wave lengths of visible light from 310 μ onwards, and in the extreme dilution of 1:50,000 distinct absorption is still shown between 280-310 μ . It is interesting to note that the absorption extends well into the ultra-violet region of sunlight, which is able to activate ordinary cholesterol. An artificial mixture of pure cholesterol with 0.05 per cent. of ergosterol does not exhibit any change in melting point or specific rotatory power, physical properties which serve chemists as a criterion of purity. Neither can ergosterol be detected by the usual colour reactions, since a specific colour test for its presence in other sterols is not yet known. The gradual disappearance of the characteristic absorption bands on irradiation may be taken to coincide with vitamin D formation, the coincident decrease in digitonin-precipitability favouring this view. Approximately five hours are necessary to complete "bleaching out" of the absorption of a 1:1,000 ergosterol solution by ultra-violet light. An interesting proof of the stability of irradiated ergosterol is afforded by the fact that a solution in an inactive oil was still active in daily doses of 1/1,000 mgm. after keeping for one and a half years in a closed flask in a cupboard. It is finally concluded that the natural parent substance of vitamin D is ergosterol or a highly unsaturated sterol of similar constitution, which is converted into vitamin D by irradiation.

INDUSTRIAL CHEMISTRY

Stability of Bleaching Powder.—The conclusion attained by H. Kast and L. Metz ("Zeitschrift für Elektrochemie," Vol. 33, p. 21) is that high-grade bleaching powder cannot be regarded as an explosive, but that it is comparable to an oxygen carrier with potassium nitrate. The stability of commercial bleaching powder is increased by the presence of free lime. Exposure to the atmosphere greatly hastens the decomposition of bleaching powder, the behaviour of different grades and commercial products varying greatly. A technical calcium hypochlorite named "Perchloron" decomposed more slowly at ordinary temperature than bleaching powder, despite its content of 68.1 per cent. of available chlorine.

New Paint Remover.—M. Phillips and M. J. Goss, of the U.S. Bureau of Chemistry, find that *p*-cymene is an excellent ingredient for paint and varnish removing compositions ("Chemical and Metallurgical Engineering," Vol. 33, p. 745). This compound is made from oil obtained as a by-product in making paper pulp by the sulphite process. It is estimated that from 750,000 to 2,000,000 gallons of *p*-cymene could be made available annually. The most effective paint removing compositions containing this material consisted of equal parts of *p*-cymene and methanol (or of ethyl alcohol). The remover is applied to the surface to be cleaned, and after standing about five minutes the softened paint is easily scraped off.

Effect of Alcohol on Silkworms.—Working in the Okayama Prefectural Laboratory for Sericulture, Nakai ("Journal of the American Medical Association," April 9, 1927) has found a way of feeding silkworms on wheat flour and sake, an intoxicating drink made from rice. In tests during the past two years, he found that the consumption of mulberry leaves is greatly reduced if the worms are fed by his method. When 30 grams of sake, mixed with about ten times as much water and some flour, was given to 400 worms, a saving was made of about 60 per cent. in the total of mulberry leaves required by the worms. The method is a benefit not only from the economic but also from the technical point of view, because the alcohol seems to improve the condition of the worms.

High-Temperature Whitewash.—E. P. Arthur, W. B. Mitchener, and J. R. Withrow ("Industrial and Engineering Chemistry," Vol. 19, No. 5, p. 591) recommend the following composition for whitewashing hot surfaces such as the firebrick fronts of furnaces: Prepare a thin slurry by stirring finely ground lime into four gallons of water, and add slowly, with stirring, salt 5 lb., plaster of Paris 5 lb., and sodium silicate $\frac{1}{2}$ pint. Apply immediately to brickwork with a brush. Addition of silicate too quickly or in excess causes the mixture to become too thick, and makes it useless as a fire-resistant whitewash. It is better to apply two thin coats in preference to a single heavy layer. The wash does not crack or flake off on subjection even to direct heat.

Fruit Acids.—E. K. Nelson has examined by the ester-distillation method the acids of various fruits ("Journal of the American Chemical Society," Vol. 49, No. 5, p. 1,300). Citric acid only was found in pomegranates, whilst Californian lemons contained citric acid, with a very small amount of *l*-malic acid. Loganberries contain a mixture of citric acid (96 per cent.) with *l*-malic acid (4 per cent.). The acids of cranberries are a mixture of about 80 per cent. citric acid with some 20 per cent. of *l*-malic acid, whilst benzoic acid (0.069 per cent.) is also present. The acids of Bartlett pears were about two parts of citric acid to one part of malic acid. York Imperial apples contained only malic acid, but a trace of citric acid is also present in Winesap apples. This is contrary to the previous acceptance of a very considerable amount of citric acid in apples.

Malted Milk.—E. S. Rose ("American Journal of Pharmacy," Vol. 99, No. 3, p. 163) remarks that little is found in the literature concerning malted milk. Food decision No. 170 is cited:—

Malted milk is the product made by combining whole milk with the liquid separated from a mash of ground barley malt and wheat flour with or without the addition of sodium chloride, sodium bicarbonate and potassium bicarbonate in such a manner as to secure the full enzymic action of the malt extract and by removing the water. The resulting product contains not less than seven and one-half per cent. of butter fat and three and one-half per cent. of moisture.

Analyses of three brands of malted milk were made in order to ascertain whether the products sold in American stores differed from those served at soda-fountain counters. The results were:—

Source	Fat	Protein	Carbo- hydrates	Ash	Water
Store ..	8.31	14.69	69.95	3.90	3.34
Fountain ..	8.07	14.37	70.91	3.88	2.86
Fountain ..	7.35	13.53	72.59	3.12	3.76

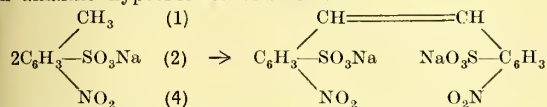
The U.S. Department of Agriculture for the five years 1920-1924 inclusive returned an average annual manufacture in the United States of 16,000,000 lb. of malted milk. The larger part of this is used by soda fountains, and is supplied in 25-lb. tins. Stores malted milk is sold in glass jars.

The Protective Film of "Passive" Metals.—U. R. Evans ("Journal of the Chemical Society," May 1927, p. 1,020) states that passive iron is coated with a protective film which is too thin to give interference tints. It can be removed and thus made visible by dissolving the metal below it by anodic treatment with a current of 6 milliamperes (precautions being taken that cathodic alkali does not come near the anode). The enveloping membrane consisted of ferric oxide, and was pale yellowish-grey by transmitted light, probably owing to its thinness. The action of iodine on passive iron provides more definite information as to the function and structure of the passive skin. The transparent skin freshly removed by iodine treatment is in the form of flakes, which break into microscopic fragments on washing. These flakes consist of non-magnetic ferric oxide and are quite transparent, showing a tendency to curl into rolls (2 to 3 mm. lengths being common). This film is the cause of passivity, the iron being active where it is discontinuous or cracked. Chlorides favour the activation of passive iron because chlorine ions can pass through the skin. The attack on passive iron is often localised at the water-level, where the film has

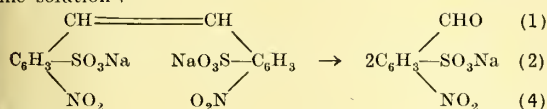
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already been loosened. Nitric acid is regarded as an untrustworthy agent in producing passivity on iron. Transparent flakes have been obtained also from passive copper and from passive aluminium. The behaviour of these metals is in many ways analogous to that of iron, but in aluminium the passivity is more persistent than in iron, whilst in copper it is less enduring.

A New Food Dye.—H. Johnson and P. Staub ("Industrial and Engineering Chemistry," April 1927) report that the U.S. Bureau of Chemistry is now considering the admission of a new green dye, Fast Green F.C.F., to the list of certified colours permitted to be used for colouring foods and beverages; the two green colours already on the permitted list being Light Green S.F. Yellowish and Guinea Green B. Investigation has shown that Fast Green F.C.F. is a fast, non-fading dye when used in foodstuffs and beverages, whereas under the same conditions Light Green and Guinea Green are subject to rapid and sometimes complete decolorisation. The new dye is also more intense than the other two greens, and the manufacturer can therefore use much less of it when colouring a food product or beverage—a decided advantage. The process used for the manufacture of Fast Green F.C.F. consists in the condensation of one molecule of *p*-hydroxybenzaldehyde *o*-sulphonic acid with two molecules of ethylbenzylaniline monosulphonic acid, followed by oxidation of the leuco substance obtained with lead peroxide in the presence of dilute sulphuric acid. The insoluble lead sulphate is filtered off and the colour separated by salting out. The preparation of *p*-hydroxybenzaldehyde *o*-sulphonic acid is conveniently accomplished by starting from *p*-nitrotoluene *o*-sulphonic acid. Direct methods have been proposed for oxidising the methyl group to the aldehyde, but the writers prefer the indirect method of first oxidising *p*-nitrotoluene *o*-sulphonic acid to the corresponding stilbene compound in alkaline hypochlorite solution:—



This provides the sodium salt of dinitrostilbene disulphonic acid in a practically chemically pure condition, which can be converted quantitatively into two molecules of the sodium salt of *p*-nitrobenzaldehyde *o*-sulphonic acid by oxidation with potassium permanganate in alkaline solution:—



Reduction of the *p*-nitro to the *p*-amino aldehyde is effected in the usual way by reduction with ferrous carbonate paste. The amino aldehyde thus obtained is diazotised with sodium nitrite, the resulting diazonium salt being converted into *p*-hydroxyaldehyde *o*-sulphonic acid by warming to 80° to 90° C., with dilute sulphuric acid.

Methyl Chloride Intoxication.—Recently, methyl chloride has come into general use as the cooling medium in refrigerators, and H. M. Baker ("Journal of the American Medical Association," April 9, 1927), as consulting physician for a manufacturing plant engaged in the manufacture of refrigerators in which commercial methyl chloride was used as the refrigerant, had occasion to observe twenty-one cases of intoxication. The men affected were all employed in the department where the refrigerator compressors were tested. After the compression coils were filled and tested it was customary to release the gas into the air of the room, and as the gas escaped it was frequently blown directly into the face of the worker, and in this way a fairly high concentration was maintained. The symptoms consisted in vertigo, staggering gait, and a feeling of buoyancy described as a sensation of "walking on air." The gait of the entire group was characteristic. While it varied with the degree of intoxication, they all raised

the feet much higher than was necessary, and combined with this there was staggering. They all complained of sleepiness, ranging from slight drowsiness to falling asleep at their work or while eating. All had more or less ptosis of the eye-lids. Anorexia was common in all cases. Loss of weight of from 2 to 12 lb. was common to this group. Sixteen of the twenty-one patients complained of visual disturbances, which varied from slight blurring to diplopia, which was found in four of the sixteen cases. As the symptoms of intoxication diminished, a persistent insomnia occurred in fifteen cases, which necessitated the use of hypnotics. Five patients developed a fine tremor, which was particularly noticeable in the extremities. It was found that eighteen of the twenty-one intoxicated men were voiding alkaline urine. In other respects the urine was apparently average. After considering the relation to and the similarity of symptoms produced by this agent and those produced by methyl alcohol, it was decided to test the urine for formates. The results showed that formates were present.

DENTISTRY

Sodium Ricinoleate Dentifrice.—H. E. Jones ("Dental Cosmos," March 1927) advocates the use of a tooth paste composed of 2 per cent. sodium ricinoleate, 2 per cent. sodium fluoride, and sufficient quantities of the finest bolted precipitated calcium carbonate and a massing fluid, the latter consisting of glycerin, gelatin and the desired flavour. The author claims this paste to be of high bactericidal power, particularly for the streptococcus-pneumococcus group, and especially valuable in pyorrhætic cases.

ESSENTIAL OILS

Italian Petitgrain Oils.—Albricci ("Parfumerie Moderne," 10 (1926), 252) gives the following figures for various Italian petitgrain oils:—

	Petitgrain oils from			
	Bergamot	Lemon	Mandarin	Bitter orange
Specific gravity ..	0.899	0.875	0.977	0.897
Rotation ..	—5°	+23.3°	+12°	—6.12°
Ester value ..	199.7	28.9	179.2	214
Acetyl-ester value	213.7	130.1	—	—
Free acids ..	0.12%	—	—	—
Esters ..	69.9%	10.1%	—	75.1%
Free alcohols ..	3.8%	—	—	—
Citral ..	2.1%	26.9%	—	0.49%
Fixed residue ..	4.18%	7.5%	—	1.99%
Methylanthanilate	—	—	59%	—

Oil of Phebalium Dentatum.—Penfold ("Journal of the Proceedings of the Royal Society, N.S.W.," ix, 340) has examined the essential oil of the leaves of this rutaceous plant, which is a shrub growing to a height of 15-20 feet in the Port Jackson district. The leaves, when crushed between the fingers, emit an odour closely resembling that of the leaves of *Eriostemon Coxii*. The average yield of essential oil was 0.21 per cent. Five oils were distilled, all being of a pale lemon yellow colour. The principal constituents so far identified are *d*-α-pinene, another terpene, butyl and amyl butyrates and isovalerianates, geraniol and citronellol and their butyric, caproic and formic esters, citral, a sesquiterpene, a sesquiterpene alcohol, phenols, and a paraffin melting at 65-66°. The oils had the following characters:—

Yield ..	0.25%—0.17%
Specific gravity at 15° ..	0.8706 to 0.877
Optical rotation ..	+18.5° to +20.8°
Refractive index ..	1.4626 to 1.4666
Ester value ..	69.8 to 90.3
Ester value (after acetylation) ..	114.5 to 129.2

Oil of Eriostemon Coxii.—Penfold ("Journal of the Proceedings of the Royal Society, N.S.W.," ix, 331) has examined the essential oil of the leaves and terminal branchlets of this rutaceous shrub, a plant growing to the height of 10 feet near the sources of the Clyde River, in the southern district of New South Wales. The leaves, on crushing them between the fingers, emit a fine fruity odour, recalling that of the luscious Passion fruit. Four distillations were made, the essential oils obtained

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being of a pale yellow colour, and the average yield being 0.55 per cent. The principal constituents so far identified are d- α -pinene, an olepinic terpene (ocimene?), butyl isovalerianate, amyl isovalerianate, linalol (?) geraniol, citronellol, darwinol, esters of caproic and isovalerianic acids, a sesquiterpene (cadinene?), traces of a sesquiterpene alcohol, phenols, and a paraffin melting at 64-66°. The oils possessed the following characters:—

	1	2	3	4
	Per cent.	Per cent.	Per cent.	Per cent.
Yield ..	0.64	0.53	0.54	0.58
Specific gravity ..	0.881	0.879	0.881	0.880
Refractive index ..	1.4610	1.4600	1.4637	1.4618
Rotation ..	+20.75°	+20.75°	+22.1°	+22.6°
Ester value ..	113.9	116.6	94.1	107.3
Ester value (after acetylation) ..	—	133.5	120	126.6

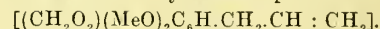
Camphor Leaf Oil.—Two instructive papers appear in the "Bulletin of the Imperial Institute" (XXV, 1, 1926) on the essential oil of camphor leaves and twigs. An experimental planting of camphor trees was made at the Botanic Station at Reunion, St. Lucia, in 1915. In 1923 the trees were fourteen to fifteen feet high. Distillations were made of (1) young leaves and twigs of 1925 growth, and (2) ordinary leaves and twigs of that and previous years' growth. It was found that the oil from No. 1 (yield 2.8 per cent.) gave 2 per cent. of recoverable camphor, and that from No. 2 (yield 2.9 per cent.) 2.2 per cent. of recoverable camphor. These yields of camphor are calculated on the distillation material, the actual oils yielding 70 per cent. or more of their weight of camphor. Plantations of the camphor tree have also been made in several parts of Burma, and a sample of the oil distilled in the Southern Shan States from the leaves and twigs has been examined at the Imperial Institute. The sample consisted of two gallons of a pale yellowish-brown oil, which, on cooling, deposited about 5 to 6 per cent. of camphor. By fractionation and cooling one fraction of the oil yielded 32.6 per cent. of camphor. Sapol is either absent or present in traces, so that the oil is of no value as a source of that particular ingredient.

FIXED OILS AND FATS

"Hypogaëic" Acid is a name which T. P. Hilditch and N. L. Vidyarthi ("Journal of the Society of Chemical Industry," Vol. 16, No. 18, p. 172r) suggest should be deleted from the literature of fatty acids. After separating the fatty acids of ground-nut oil into solid and liquid portions, the most volatile portions of the carefully fractionated methyl esters of the latter were submitted to hydrolysis and subsequent alkaline oxidation. The only dihydroxy acid detected was 9:10 dihydroxy-stearic acid (m.p. 130° C.). It is concluded that hypogaëic acid or other acid of the formula $C_{18}H_{32}O_2$ does not occur in ground-nut oil. The only acid found in nature of this composition is Δ^9 :¹⁰-tetradecenoic acid, $CH_3[CH_2]_3CH:CH[CH_2]_7COOH$. The name palmitoleic acid is appropriate and sufficient for this monoethylenic derivative of palmitic acid, which is found in cod, whale, sperm, seal, walrus, and other animal oils.

The Composition of English Parsley Seed Oil.—T. P. Hilditch and E. E. Jones ("Journal of the Society of Chemical Industry," Vol. 46, No. 18, p. 174r) have investigated English parsley oil. The fatty acids from the saponifiable portion of the oil consist of: Palmitic acid, 2 per cent.; petroselinic acid, 76 per cent.; oleic acid, 15 per cent.; linoleic acid, 6 per cent.; higher saturated acids, 1 per cent. The structure of petroselinic acid as Δ^6 :⁷-octadecenoic acid is confirmed. The non-saponifiable portion of parsley-seed oil was also studied briefly. Since this had been distilled in steam to remove the last traces of solvent used in extraction of the seeds, it did not contain any terpene or other similar volatile constituent which originally may have been present. These, however, form a relatively small proportion (5 to 10 per cent.) of French or German essential oil of parsley. The non-saponifiable material extracted from the fatty soaps of the English oil of

parsley was a dark-brown (dark-green prior to alkali treatment) semi-solid material with a characteristic odour of parsley. The main constituent is the liquid phenolic ether myristicin $[(CH_2O)_2(MeO)C_6H_3.CH_2.CH:CH_2]$. English oil of parsley is similar in this respect to the French oil, whereas the German variety is characterised by a predominance of crystalline apiol



MATERIA MEDICA

Ephedra Nevadensis or "Mexican Tea" has been examined by R. E. Terry ("Journal of the American Pharmaceutical Association," Vol. XVI, No. 5, p. 397). The drug appears on the American market in the form of short cylindrical pieces (2.5 cm. long and 1.54 mm. in diameter), with double opposite leaf scars or adherent scale leaves. The internodal portions are finely striate, and light yellow-green in colour. The taste is aromatic and astringent, whilst the slight odour is somewhat pine-like. The absence of alkaloid causes the author to state that "there seems to be no distinct advantage to be gained by the introduction of *Ephedra nevadensis* into medicine." The astringency is due to gallotannic acid and the infusion appears to have a slight diuretic effect in doses equivalent to 5 to 15 grams of the drug. Very little may be said in favour of the plant outside its domestic use as a tea substitute (under the names of Mexican tea, Mormon tea, Caynote, Canutite, Teamster's tea, and Squaw tea). Those accustomed to the infusion are said to prefer it to tea as a beverage.

MEDICINE

Treatment of Influenza.—I. Eugene Reid ("Lancet," I, 1927, p. 720) writes that during the influenza epidemic in 1918 he found the following treatment useful in influenza with pyrexia or epistaxis and pulmonary complications:—

Amm. chloridi ..	...	...	...	...	...	5iss.
Liq. amm. acetatis ..	...	...	...	...	...	5vj.
Tr. euonymi ..	...	...	...	...	...	5ij.
Tr. nucis vomicæ ..	...	...	...	...	...	5iss.
Ess. pepsinæ ..	...	...	...	...	q.s. for	5iv.

One teaspoonful in a wineglass of water every two hours until better, then every four hours until well.

This treatment is based upon the experience of 1972 cases, most of them in the crowded districts of Boston. There was no available nursing and the hospitals were overcrowded.

Ephedrine in Asthma.—G. F. Munns and C. A. Aldrich ("Journal of the American Medical Association," April 16, 1927) have used ephedrine sulphate in twenty-two cases of bronchial asthma in children, in doses of 0.012 to 0.05 gram, administered orally. In some instances the drug was given regularly every four hours, in others only as needed and indicated by the symptoms. In twelve instances, relief was afforded patients who were in the paroxysmal stage or had severe persistent cough, usually within from thirty to forty-five minutes after the first dose. Four of the patients were only partially relieved, and in six instances the drug did not have any apparent beneficial effect. Nine of the patients had persistent cough as a major symptom. This was relieved effectively in eight instances. Four children were nauseated after taking the drug, and two of these did not experience a beneficial effect. From these results, ephedrine would seem to be a valuable remedy in many instances, especially in the milder cases, as a method of relieving cough.

Parathyroid Extract in Hæmorrhage.—B. Gordon and A. Cantarow ("Journal of the American Medical Association," April 23, 1927) have administered parathyroid extract (Collip) to 347 patients suffering from hæmorrhage from various causes, and have come to the conclusion that it is an agent which can effectively and consistently increase the amount of calcium in the circulating blood. Their observations are summarised in the following notes:—Cessation of the hæmorrhage occurred in 304 patients following one or more transient increases in the

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calcium content of the circulating blood. The most favourable results followed the administration of from ten to fifteen units every thirty-six hours, giving from one to three doses. As a preoperative measure in jaundice, it reduced the coagulation time to within normal limits and apparently prevented hæmorrhage. As compared with the common experiences with oral and intravenous administration of calcium the results are more dependable, and furthermore gastric irritation and other untoward effects are avoided. The hormone was found to be of special value in patients recovering from surgical operations who were unable to tolerate oral therapy.

OPTICS

Prescribing Non-actinic Glass.—J. E. Rees ("Refractionist," March 16, 1927) has found non-actinic glass to be of great value when inspection by the ophthalmoscope shows the fundus is of a different hue; the veins are swollen, and the blood flowing through them is of a dull brick red colour. This clinical picture is not ill-defined as when neuritis is present; on the contrary, the disc and vascular areas are, if anything, more prominent than under normal conditions. Another unmistakable sign of intolerance to bright light is the very brief period of time the patient is able to stand the light from the ophthalmoscope. If prolonged for a couple of minutes tears readily flow and in very sensitive cases the patient withdraws his head almost immediately. Those with large pupils and "blue" eyes are more subject to intolerance to bright light than others. Non-actinic glass is also a great blessing to a myope who wears deep concave lenses. Very often, when myopia is fully corrected, the patient complains of dazzle, and to overcome this inconvenience it is necessary to under-correct or dispense tinted lenses.

Preventing "Eclipse Blindness."—A. Lawson and A. L. Whitehead ("Lancet," April 30, 1927), after referring to the serious risk to the eyesight which must accompany any attempt to observe the sun's disc without an efficient filter before the eyes, and to the essential points which such a screen must possess, state that Dr. S. Judd Lewis, F.I.C., Ph.C., has produced exactly what is wanted. The screen comprises a photographic film, fogged by exposure to light so as to produce a certain density, and then treated by a special method, as a result of which all the spectrum of wavelength shorter than 4,000 Angström units is cut off. By this means a medium is obtained which reduces the luminosity of the sun to a safety point and also entirely disposes of all danger from ultra-violet radiation. Simple fogging would not alter the character of the spectrum, but only reduce its intensity, which, as already pointed out, is not a sufficient safeguard if a person gazes for any length of time at the sun's orb. Further, this treatment does not alter the colour of the film so that the sky and eclipsed sun are seen in their natural colour.

Refractor versus Trial Case.—A. J. Esdaille ("Optician and Scientific Instrument Maker," May 27, 1927) compares the disabilities of the trial case and frame with advantages derived by the use of the refractor head or phoropter. The trial frame suffers from lack of rigidity, difficulty in fixing and maintaining lenses at known distances from the eyes, irritation and discomfort to the patient, and the interdependence of the lenses, the frame and the facial contour. On the other hand, the refractor head is suspended from the chair, no part of it resting upon the patient, and the change of lenses is accomplished by mere turning of a knob. The eye-piece fits close to the lids and shuts out all extraneous light, while the lenses are compensated for the distance from the eye of the patient. All spheres, cylindrical, or spherocylindrical combinations, are brought instantaneously and automatically into a fixed position before the eyes. The instrument is described as an easy method for efficiently applying retinoscopy, dynamic or static, and objective methods of sight-testing. Its simple and instantaneous changing of lenses is ideal; prism values are obtained from 1Δ to 60Δ in steps of less than ½ prism dioptre, there being practically no disturbance

of accommodation or convergence when lens or prism value is changed.

Ultra-Violet Light Applications.—At a recent meeting of the Birmingham and Midland Section of the Society of Chemical Industry A. A. King read a paper on his researches and investigations on the "Ultra-Violet Light." One of the most urgent needs of chemists and others was, he said, practical filters by means of which one might isolate any selected region in the ultra-violet spectrum. When a filter is discovered which will pass the shortest ultra-violet rays a wide field will be open, particularly in medical research. None is at present available, and we are driven to compare differences in reaction obtained with filters which still allow visible as well as more or less ultra-violet rays to pass through them. Perhaps the most useful filter for fluorescence work is Chance Bros.' ultra-violet glass. This glass, while cutting out all but the extreme red of the visible spectrum (a very faint region between 7000 and 7500Å) transmits rays from 4000Å to 3250Å. The longest rays in the ultra violet will also pass through ordinary glass wherefore fluorescence experiments can be conducted in ordinary glass vessels with this range of radiation. The fluorescence in the glass itself must be allowed for. It is physiologically impossible to experience complete darkness in a room into which invisible ultra-violet rays are emitted. Even though every other material within range is non-fluorescent, the lens of the eye is fluorescent in these rays, and the retina becomes aware of a blue misty illumination. This principle was made use of during the war for invisible light signalling. A beam of ultra-violet rays concentrated in a quartz lens is "picked up" by fluorescent materials. A much more important application of this effect for the chemist is that of distinguishing certain imitation gems and precious stones from the pure stones. The method is not confined to such materials, and it promises important development. Even laboratory "distilled" water may profitably be examined in the rays. The ultra-violet light could be used for testing the presence of arsenic. As to the arsenic test, some twelve months ago he had recourse to the most refined of the known methods of detecting and estimating minute quantities of arsenic in food substances. Finally he selected the Gutzeit method, which gives a mercury-arsenic yellow stain, and is most suitable for further examination. An attempt to intensify the stain in monochromatic light served its purpose, but it occurred to him to expose the stains to ultra-violet radiation. It was discovered that by the method one may estimate quantitatively arsenious oxide of an order of minuteness beyond what has been hitherto possible with normal Gutzeit, Marsh, or any other method with which he was acquainted. Absorption of the rays by the mercury arsenic stain makes this intensely black, so much so, that stains which are quite indistinguishable in ordinary light stand out a startling black upon a fluorescent background. They had been able to estimate with certainty as little as 0.00000005 gram as As_2O_3 , and to detect even smaller masses. A pleasing by-product of the investigation was the demonstration that it is possible to get materials, such as zinc and sulphuric acid, so pure that an all but perfect blank can be obtained. There was to be seen in the rays a series of arsenic stains ranging from 0.000001 gram to 0.0000001 gram As_2O_3 , the last five of which are quite invisible in ordinary light, whether monochromatic or otherwise.

PHARMACOLOGY

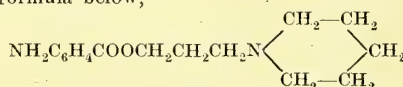
Ephedrine in Spinal Anæsthesia.—N. F. Ockerblad and T. G. Dillon ("Journal of the American Medical Association," April 9, 1927) have found that ephedrine is of use in spinal anæsthesia to combat its depressive effect and as a means of sustaining the blood pressure. The authors have used it in twenty-four cases of spinal anæsthesia with uniformly good results. When the blood pressure has fallen 10 per cent., ephedrine is given subcutaneously and the blood pressure reading is noted at ten-minute intervals. In the first few cases, ephedrine was given by mouth; while its action

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was delayed, its effect on blood pressure was markedly to increase it. The authors have not observed untoward effects from either the subcutaneous or oral administration of this alkaloid; they found that it was best to seek to prevent the drop rather than to permit the pressure to fall too low before giving the ephedrine, as the rise from levels below a systolic pressure of 80 was rather retarded. A dose of 0.1 gram of ephedrine was given subcutaneously before the systolic pressure dropped below 100 mm. of mercury.

A Possible Insulin Substitute.—P. T. Herring ("Lancet," I, 1927, p. 1,000) draws attention to a paper communicated to the Royal Society recently by Dr. Hynd from the department of Physiology, St. Andrews, which may turn out to be of considerable importance. Dr. Hynd has ascertained that glucosone or aldofructose, one of the oxidation products of glucose or fructose, produces when injected subcutaneously in mice a condition which is very similar to that produced by the injection of insulin. Similar oxidation products of maltose and lactose—maltosone and lactosone—are inactive, but on hydrolysis become active. Dr. Hynd suggests that glucosone is the intermediate in carbohydrate metabolism which is normally formed, and that some at least of the symptoms produced by insulin are due to the production of glucosone in excess. The symptoms are modified by adrenalin and pituitrin as are those due to insulin. If Dr. Hynd's views are correct, it is possible that glucosone might be used in place of insulin, particularly as it can be taken by mouth.

New Anaesthetics of High Activity have been prepared by O. A. Barnes and R. Adams in the course of a study of piperidyl alkyl *p*-aminobenzoates ("Journal of the American Chemical Society," Vol. 49, No. 5, p. 1306). β -piperidylpropyl *p*-aminobenzoate, with the graphic formula below,



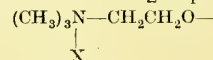
has an anaesthetic index towards goldfish about sixteen times that of procaine. The corresponding piperidylethyl derivative is about half as active, having some eight times the anaesthetic power of procaine. H. Heckel, in conjunction with R. Adams, prepared cyclic alkamine esters of *p*-aminobenzoic acid. The higher melting (probably *trans*) form of *p*-dimethylaminocyclohexyl *p*-aminobenzoate hydrochloride was practically twice as anaesthetic to goldfish as the lower melting *cis*-isomer. Equimolecular concentrations exhibited very little difference in regard to length of anaesthesia on rabbit's cornea. The effect of the *trans*-4-dimethyl amino derivative was in 2 per cent. solution slightly greater in mucous membrane anaesthesia than cocaine hydrochloride. The other cyclic alkaline esters of *p*-aminobenzoic acid were less effective in this respect.

Anaesthesia and Metabolism.—A. Bolliger ("Journal of Biological Chemistry," August 1926, p. 721) finds that the inorganic phosphate in the blood is depressed during uncomplicated anaesthesia due to well-administered ether, chloroform, or ethylene gas with oxygen. The early recovery period is marked by blood-phosphates well below the fasting level; and the excretion of phosphate is low or it may cease altogether. Experiments on pancreatometomised dogs suggest that the absence of variation in the inorganic blood-phosphate curve during anaesthesia is secondary to changes in blood sugar level produced by and identified with anaesthesia. Morphine and atropine mask the effects of anaesthesia upon metabolism because they themselves induce changes similar to the complications resulting from asphyxia and excessive muscular exertion.—A. Mahler (*loc. cit.*, p. 653) observed during ether anaesthesia a definite rise in the total cholesterol content of the blood roughly proportional to the increase in blood sugar. Insulin administered several hours previous to anaesthesia prevents increases in both blood cholesterol and blood glucose. This is held to indicate that pancreatic secretion is suppressed during

ether anaesthesia, and that insulin is apparently one of the factors controlling the cholesterol content of the blood.

Helminthic Therapy.—Following a series of experiments in which oil of chenopodium was administered intravenously to dogs infested with *Trichocephalus depressiusculus*, M. Fernan-Núñez ("Journal of the American Medical Association," March 19, 1927) gave intravenous injections of 1.5 c.c. of this oil, followed three hours later, and daily for seven days, by a dose of 30 c.c. of castor oil to eleven patients with successful results. In sixty-nine cases, 3 c.c. of oil of chenopodium was injected into the gluteal muscles, and this treatment also expelled the helminths. The author comes to the conclusion that oil of chenopodium by mouth, administered in a single dose of 40 minims, followed immediately by an ounce of castor oil, is equally efficient, less dangerous, and much more convenient for patient and physician than the more commonly used method of divided doses. When given by intramuscular or intravenous injection it is specific against *Trichocephalus* and *Oxyuris*, the two most difficult nematodes to eliminate. As it is very difficult to reach *Trichocephalus* lodged in the cecum and appendix, this method renders it possible to attack the worms by way of the blood stream, in view of their custom of sucking the blood of the host. In intravenous injections of oil of chenopodium, one should observe the same precautions as in any other intravenous treatment. The urine should be examined for albumin, casts, pus and sugar; the heart should be examined for organic or functional disorders, and the haemoglobin should be estimated. The bowels should be open, and the patient not allowed to eat during the four hours preceding the injection; it is necessary that patients should rest in a horizontal position for several minutes before and for two hours after the injection. The use of a pure and fresh oil of chenopodium is indispensable.

Betaines and the Muscarine Effect.—R. R. Renshaw and H. T. Hotchkiss, jun., discuss the betaines in connection with the physiological activity of the -onium compounds. The muscarine effect (stimulation of inhibitory nerves and lowering of blood pressure) is most marked in compounds with the grouping:—



These depart least from the choline type of structure. An intense and extraordinarily persistent muscarine action is given by the injection of a few tenths of a milligram (per kilo. body weight) of acetyl- α -methyl choline, this sufficing to lower the blood pressure by one-half for hours. The simple betaine ester (ethylbetaine) resembles choline and its esters in physiological action, but the apparently safe prediction that its methyl derivative would also have a like persistence proved to be incorrect. Ethylbetaine is more active than neurine, and has perhaps a hundred times the activity of choline. Phenylbetaine possesses a pronounced paralyzing nicotine action and a weak stimulating neurine action, but the introduction of the phenyl group has practically abolished its muscarine effect. All the betaine derivatives, in which the acid hydrogen atom of betaine had been replaced, are physiologically active. The inactivity of betaine itself is suggested to be due to it existing in the blood stream as the electrically neutral, and hence physiologically inert bipolar ion,

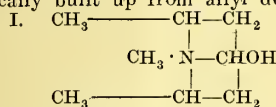


The betaine esters and their derivatives, as well as the amide of betaine, form electrically active cations, and are all physiologically active.

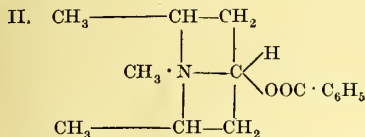
A New Local Anaesthetic.—H. Staudinger ("Schweizerische Apotheker-Zeitung," May 28, 1927) has succeeded in producing a new compound possessing a pronounced local anaesthetic action, which has been found to be superior to that displayed by cocaine, in addition to possessing the advantage over the latter that its solutions can be sterilised. The compound differs in its constitution from cocaine in that the dicyclic tropine ring present

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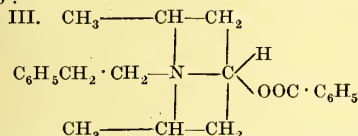
in the latter is replaced by an open monocyclic tropine ring synthetically built up from allyl derivatives:—



On esterification with benzoic acid, the resulting compound:—



already exhibits anaesthetic properties, but the latter are very markedly increased by further substituting the methyl group attached to the nitrogen by a phenylethyl group:—



In the form of its hydrochloride, this compound (III) is at present being submitted to clinical tests. [In British Patent 251,666 the drug is described as the benzoyl ester of *N*-allyl-2,6-dimethyl-4-hydroxypiperidine.]

Thallium.—W. E. Dixon ("Proceedings of the Royal Society of Medicine," June 1927) communicates the results of an investigation into the alopecia which thallium, however administered, produces in man and animals. There is no other substance which acts like thallium in producing the characteristic alopecia in both men and animals. All animals, with the possible exception of the guinea-pig, when injected with thallium, lose their hair; the hair at first becomes less glossy, it is easily rubbed off, and later is shed. The alopecia begins on the nape of the neck and round the ears, and the last hairs to fall are those round the chin and nose. But besides this action thallium, in small doses, stimulates the growth of the hair. In order to show this, two rabbits from the same litter were shaved on one or two areas; one animal was kept as a control and to the other thallium was administered. In the first animal there was no apparent growth of hair in the shaved areas. In the case of the other animal from the same litter, which after being shaved had received a dose of thallium, there was a distinct growth of new hair on the shaved parts. This is a characteristic result: the thallium, whilst destroying the old hair, promotes the growth of new hair. In the animal the only effect noticed is that the hair falls out, that is, there are no other definite objective effects. Sections of the alopecia area show an epidermis almost normal; in the dermis there is an increased density of fibrous tissue, but the sebaceous follicles are normal; the collection of epithelial cells is smaller than usual, but the dividing cells show nothing abnormal. Interruption in the normal growth of the hair is due to failure of the process of transition from the large polygonal cells to the stratified cells forming the hair. The conclusion to be drawn from these experiments is that there is a considerable evidence that nerve injury may produce alopecia and that mental shock which is closely associated with the autonomic system may have a similar effect; also there are many cases of trigeminal neuralgia resulting in alopecia over the area affected. With thallium there are two unusual and remarkable effects associated with one drug: the production of alopecia and a definite effect on the autonomic nervous system. Since alopecia areata is frequently associated with nervous phenomena, it may not unwarrantably be suggested that the autonomic system has a great part in its causation. Thallium rubbed into the skin does not depilate, nor does it locally effect the blood-vessels; it is only after absorption that this metal affects the hair.

Ovarian Hormone in Water-soluble Form.—F. Dickens, E. C. Dodds and D. J. T. Drinkworth describe a method

for obtaining the oestrum-producing hormone in a water-soluble form by extracting from placenta, the yield being over 1,000 rat units per kilo ("British Medical Journal," I, 1927, p. 1016). Experimental details are described showing that it is possible to obtain by the acetone picric acid process, and by modifications of it, the ovarian hormone in the form of a water-soluble hydrochloride. The yields obtained by this process, however, were very small. Minced pigs' ovaries were mixed with dry picric acid and extracted with 70 per cent. acetone. The acetone was removed by vacuum distillation, and the dry picrate obtained on filtering the aqueous residue was extracted with acid alcohol. On adding 15 volumes of acetone to this extract, a precipitate formed, which, when well washed with ether and dried *in vacuo*, proved to be very soluble in water and to produce oestrum in ovariectomised rats in doses of 10 mg. The yields obtained by this method were of the order of 40 rat units per kg. On applying the above method to placenta, yields of over 90 units per kg. were obtained, the weight of one rat unit being 4.5 mg. A long series of experiments was then conducted on the acid extraction of placenta. The yield in a typical experiment was 6.11 g., and this was found to be strongly active in 2.5 mg. doses (=1,600 rat units per kg.). Subsequent experiments show that still larger yields may be obtained by variation of the hydrogen-ion concentration to which the extract is adjusted before filtration. Active material may also be obtained by iso-electric precipitation. The product so obtained is a pure white powder very soluble in water. It can be boiled in aqueous solution for a considerable period without loss of activity. The active principle passes completely through a collodion membrane, and the substance may be purified to some extent by this means. On extracting material active in 5 mg. doses with hot butyl alcohol, the filtered extract yields a product the rat unit of which is 0.5 mg. The substance appears to be relatively simple, and contains a fairly large proportion of sulphur. The Pauly reaction for histidine is strongly positive. Tryptophane also appears to be present. Standardisation of the products described above was carried out upon young rats of uniform weight. In a subsequent note on the preparation and properties of a female sexual hormone in water-soluble form Professor Ernst Laqueur, Drs. P. C. Hart and S. E. de Jongh, Amsterdam (p. 1126), summarise some of their own recent investigations. From an experience of hundreds of experiments during the last two years they have found the best procedure to be briefly as follows:—The placenta is used as fresh as possible. It is finely minced. It is boiled with one and a half times its volume of benzene for at most one hour. The benzene is filtered off as quickly as possible and on evaporating the fluid a yellow residue remains, weighing between 200 and 300 mg. per kg. placenta. It contains about 1,000 mouse units (M.U.). This is only about one-third of the total amount present in human placenta. On treating it with water, sometimes part of the hormone dissolves to a clear solution, but this is by no means regularly the case, and often the fluid is turbid. It is therefore better to proceed as follows:—The residue is repeatedly triturated with small amounts of 80 per cent. alcohol (usually altogether about 50 c.c.) until the alcoholic layer after centrifuging is quite colourless. Thus a large part of the impurities are left behind. The alcohol is evaporated; the weight of the remaining residue is about half that of the first crude product. The residue is shaken with 500 c.c. of water and 1.5 to 2 c.c. of 25 per cent. HCl for about half an hour. It is then left at a temperature of +2° C. for about twelve hours. Then it is centrifuged or filtered through glass wool. Finally, if the fluid is not yet quite clear, it is filtered through asbestos (long fibres, treated with decinormal HCl and washed with water). Common filter paper should be avoided, because it adsorbs large quantities of active material. The solution thus prepared contains, as a rule, about 300-400 M.U. The output may be increased to about 600 M.U. by extracting glass wool and asbestos with benzene, evaporating the solvent and dissolving the residue in water in the manner just

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described. In criticising the recent investigations of Dickens, Dodds, and Brinkworth, the authors state that these were carried out upon a material of which 0.5 mg. represented 1 rat unit; considering the degree of purity reached by the present writers, less than 0.005 of their material must have been the real hormone. The continental preparations, some of them not fully purified, did not show any certain sulphur content, and did not give a histidine test.

Plasmochin.—In a paper on "The Action of Plasmochin on Malaria," P. Manson-Bahr ("Proceedings of the Royal Society of Medicine," April 1927) states that although there cannot be any doubt about its therapeutic excellence in the treatment of malaria, far less reliance is placed upon quinine as a means of extirpating malaria than was formerly the case; for this dubiousness the experiences of the Great War, and that gained since the cessation of hostilities, have been largely responsible. The attention of synthetic chemists has been focused for some time past on the production in the laboratory of some organic combination of the quinoline ring which would exert a much more specific action upon the malaria parasite, and which would, at the same time, be free from the attendant toxic phenomena which sometimes accompany the action of this drug. In the pharmaceutical laboratories at Elberfeld, H. Hörlein has produced a complicated body known as alkylamino-6-methoxyquinoline. In so doing a great many combinations of side chains to the quinoline ring have been attempted, but of these so far one only, ethylaminoquinoline-hydrochloride, has been found to be well tolerated and at the same time to exert a toxotropic action upon plasmodia allied to the malaria parasites. The detailed formula for plasmochin, as it is now known, has not as yet been definitely stated, except in the general terms outlined above. As a result of experiments on canaries infested with the plasmodium allied to malaria, plasmochin was found to exert a parasitotropic action sixty times greater than quinine. The author reports the results obtained from the use of plasmochin in eighteen cases of malaria, which fully confirm those recorded by previous observers, namely:—

(a) Plasmochin in doses up to 0.03 to 0.1 gm., daily causes a rapid disappearance of benign tertian parasites from the peripheral blood within twenty-four hours of its administration, and when this dosage is continued over a period of five to seven days, the banishment of the parasite appears to be in some instances permanent.

(b) Plasmochin in the same dosage as is efficacious in benign tertian infections does not in every instance banish the schizonts of the subtertian parasite in the same manner.

(c) The gametocytes of the benign as well as of the subtertian parasite are first affected. The crescents of the latter—even when numerous—disappear from the blood within four days.

(d) The extraordinarily rapid action of the drug in reducing the size of the spleen is remarkable. By daily measurements it has been shown that a spleen measuring 6 in. in the nipple line recedes well within the costal margin in a period of nine to ten days, so that it is no longer palpable. The rapid contraction of the spleen is often accompanied by a sensation of pain and discomfort over the splenic area.

(e) The appearance of urobilinogen in pathological amounts in the urine coinciding with the administration of the drug and persisting for several days subsequently.

(f) The appearance of a deep cyanosis involving, at first the face, and subsequently the whole body, with doses in excess of 0.03 gm. daily, has been noted; this cyanosis being due to a methæmoglobinæmia, which, if too intense, may develop into methemoglobinuria.

In subtertian malaria a combination of plasmochin and quinine, known as "Plasmochin Compound," has been found more efficacious than plasmochin alone. This combination is issued in the form of tablets, each containing 0.01 gram of plasmochin and 0.125 gram of quinine sulphate. The author has treated ten cases of malaria with plasmochin compound, five of which were benign, and an equal number subtertian infections. As compared with the points already noted regarding plasmochin, the disappearance of the parasites from the peripheral blood-stream was not effected so rapidly, but improvement in the

clinical condition was striking, and was accompanied by an equally rapid reduction in the size of the spleen. No unpleasant sequelæ have been observed after the administration of plasmochin compound, and it also appears to be free from the usual accompaniments of quinine therapy. No cyanosis has been observed with this combination. The advantage of plasmochin compound over quinine is obvious, though it is yet far too early to state positively whether the apparent cure of a malaria relapse is permanent. The author, in conclusion, expresses the opinion that it is safe to augur that plasmochin is but the first of a similar series of synthetic compounds which may extirpate the malaria infection without at the same time eliciting any toxic symptoms. Plasmochin should therefore be regarded as the beginning and not as the climax of a new series of anti-malaria drugs.

PHOTOGRAPHY

Fixing Silver-iodide Plates.—J. Rzymkowski ("Photographische Industrie," December 6, 1926) advocates the following formula for use as a fixing bath in which silver iodide may be dissolved as quickly as is silver bromide in the ordinary hypo solution: Dissolve 58 gm. powdered borax in about 900 c.c. water, add a small quantity of a 0.2 per cent. alcoholic solution of methyl red, and then about 18.6 c.c. of glacial acetic acid (until the solution assumes a weak intermediate colour). The mixture is then made up with water to 1,000 c.c. and 200 gm. hypo and 40 gm. thiocarbamide are dissolved in it. The time of fixing thin silver-iodide plates is about three minutes, but it is well to leave the plates for some minutes longer, otherwise a whitish deposit may be left in the gelatin.

Effects of Dilution on Photographic Developers.—A. H. Nietz and R. A. Whitaker ("Journal of the Franklin Institute," Vol. 203, No. 4, p. 509) have made a detailed investigation of the deviation in effective developer strength due to dilution. They conclude that the deviations are in order of importance as follows:—

(1) The effect of hydrolysis in lowering the concentration of the active anion of the phenolate. (A footnote adds that Lüppo-Cramer ascribes similar effects with aminophenols to hydrolysis.)

(2) Imperfect outward diffusion of bromide and other reaction products formed. Proper stirring eliminates this effect and gives a rate of density increase in favour of the dilute solution.

(3) Aerial oxidation accounts for a portion of the falling off in density with the more dilute solutions, but this is small in amount, and for practical purposes only affects developers which oxidise rapidly.

(4) Penetration effects, if they exist, would only affect concentrated solutions, surface development and tanning being cited as possibilities.

Turbidimetry and Plate Emulsions.—F. F. Renwick ("Photographic Journal," April 1927) discourses on the properties of turbid media, and describes a turbidimeter of simple construction. Using this instrument, it is shown that the thickness of the layer of any turbid liquid which will just obscure a test pattern is inversely proportional to its concentration. It is also shown diagrammatically that the slope of the line connecting the obscuring thickness with the volume of suspension containing one gram of silver bromide varies over a wide range with the change of size of the emulsion grains. It is thus seen that slow emulsions consisting of grains of an intermediate size have the maximum covering power, both the very rapid negative types of emulsion which are large grained and the extra fine grained slow lantern and gaslight emulsions being much more translucent. For comparing the obscuring or covering powers of different suspensions, specific turbidity is defined as the maximum area of given contrast-pattern which can be just obscured by one gram of the suspension. If two emulsions of differing average grain characteristics be compared in this manner they differ considerably in their specific turbidities. There is a marked difference between the obscuring power of any gelatino-bromide layer in the wet and in the dry state, the ratio of their turbidities varying greatly with the grain size. A second

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turbidimeter is described which requires to be calibrated before a direct reading can be obtained. This has a wider range and is more rapid in operation than the graticule pattern already mentioned.

Hypo-alum Toning.—J. Southworth ("British Journal of Photography," March 25, 1927) points out that the chief, though perhaps not the only, toning agent in hypo-alum baths is probably fine-divided sulphur, and the bleaching effect of a new unripened bath is due to the solvent action of the solution on metallic silver and silver sulphide. Ripening consists in the impregnation of the solution with dissolved silver, as a result of which the solvent action is reduced, and probably the best method of doing this is by adding silver nitrate, but it must be added carefully in dilute solution, with stirring of the bulk of the hypo-alum mixture. A formula which has given good results on a small scale is as follows:—

A.			B.		
Hypo ...	...	3 oz.	Silver nitrate ...	...	2 gr.
Powdered alum ...	...	1 oz.	Water ...	...	1 oz.
Hot water ...	...	20 oz.			

Add B to A in a gentle stream while stirring A. Even when new, the bath has no important reducing effect on the prints, so the latter before toning may generally be of normal depth. If a fully-ripened bath is not required, use less solution B. With a new, unripened bath, potassium iodide has a definitely prejudicial effect, increasing the bleaching action and tending to give yellowish tones. On the other hand, with fully ripened baths, iodide has little or no effect even when used in fair quantity (e.g., up to ten grains per pint). With partly-ripened baths, iodide may produce certain effects which can, however, usually be duplicated by using an unripened or less ripened solution. Indications are that the finer the grain of the print image, the warmer is the tone, and vice versa. Fully ripened baths, giving cooler tones, may not always be the best.

VETERINARY MEDICINE

Intervals Between Calvings.—H. G. Sanders ("Journal of Agricultural Science," January 1927) has attempted to ascertain the best interval between calvings, so that the cow's average weekly yield of milk over a period may be at a maximum. It was only possible to consider the case of the average cow, but it is claimed that the general principle has been established that cows should calve at intervals of not less than a year, and not more than thirteen months. This optimum will probably be subject to slight variation in particular cases.

Parasitic Gastritis in Lambs.—The outstanding work in connection with the treatment of parasitic gastritis in lambs is that published by Veglia (5th and 6th Reports, Director of Veterinary Research, Union of South Africa) in 1918, who showed that the best results were to be obtained by the administration of sodium arsenite and copper sulphate in doses ranging from 35 to 75 mg. of the former and 140 to 300 mg. of the latter. The results obtained in experiments conducted by A. L. Sheather ("Journal of Comparative Pathology and Therapeutics," March 1927) support the conclusions arrived at by Veglia. In the tests conducted by Sheather the basic dose, usually given in solution, was sodium arsenite 75 mg. and copper sulphate 300 mg. While the basic dose did not in any case appear to be responsible for a reduction in the number of eggs passed, there was evidence that larger doses did effect a reduction. Though it was found that the administration of 150 mg. of sodium arsenite and 600 mg. of copper sulphate on two consecutive days may cause poisoning, in some cases much larger doses, viz., 337 mg. and 1,350 mg. respectively, on two consecutive days, were tolerated. That this dose is within the danger zone is indicated by the fact that one animal was poisoned by a single dose of 300 mg. of arsenite and 1,200 mg. of copper, so that extreme caution must be used in the administration of the mixture, and the doses graduated according to the size of the animals and their general condition. The experiments indicate that a solution of sodium arsenite and copper sulphate (in the relative proportions of 1 to 4

dissolved in water acidulated with hydrochloric acid) is effective for the destruction of *Haemonchus contortus*. There is some evidence to show that copper sulphate alone is effective against *H. contortus*, but against the other species both medicaments are ineffective. The following substances were found to be ineffective against any of the species encountered: Bleaching powder, alone or with hydrochloric acid; sodium bisulphite with hydrochloric acid; carbon tetrachloride mixed with liquid paraffin; iodine in liquid paraffin, ether or oleic acid; derris root; copper oleate with or without sodium oleate; oil of chenopodium; thymol dissolved in turpentine; lime and sulphur wash. Tests carried out with petrol and benzol, lysol, and tartar emetic were too few to allow the formation of any opinion.

Canadian Food and Drugs Act Amendment

AN amendment to the Canadian Food and Drugs Act, passed by the House of Commons and approved by the Deputy Governor-General, extends the provisions of this Act relating to medicines, for internal or external use, to apply to any substance or mixture of substances intended to be used for the treatment, mitigation or prevention of disease in man or animal. Appended to the amendment is a Schedule B, in which the following drugs are mentioned:—

SCHEDULE B

Part I.—Preparations of strophanthus, digitalis, ergot, and any other vegetable preparations for which biological tests are deemed necessary.

Part II.—Preparations of pituitrin, thyroid, adrenalin, and any other animal tissue preparations.

Part III.—Serums, viruses, toxins, vaccines, and analogous biological preparations.

Part IV.—Organic compounds of arsenic and analogous preparations prepared for parenteral medication.

The Governor in Council is empowered to make regulations respecting any of these drugs in regard to: Prescribing standards of quality and potency; defining official methods for biological testing, which shall permit manufacturers to have biological tests made in any laboratory; licensing manufacturers preparing drugs mentioned in Parts II and III of Schedule B; inspection of premises, and equipment and technical qualifications of the staff of manufacturers preparing such drugs; requiring manufacturers of drugs mentioned in Part IV of Schedule B to submit samples of each and every batch of such drugs to be tested in the laboratories of the Department of Health; requiring that only approved batches may be imported, sold, or offered for sale; and prescribing a schedule of fees for inspection, licensing and biological testing. Any drug described in Schedule B shall be deemed to be adulterated if it has not been manufactured, tested and labelled in accordance with the regulations made by the Governor in Council under this section, or if it differs in quality or potency from the standard of such drugs established by these regulations. The provisions of the Food and Drugs Act of 1920 relative to the misbranding of food are made applicable to drugs. The amendment also prohibits the distribution from door to door, or in a public place, or through the mails, of samples of any drugs. This provision, however, does not prevent manufacturers or wholesale dealers from distributing samples by mail or otherwise, in compliance with individual requests, or from distributing samples to physicians, veterinary surgeons, dentists, registered nurses, hospitals, or to retail druggists for individual redistribution to adults only.

NOTTINGHAM UNIVERSITY.—Nottingham Corporation has voted an expenditure up to £10,000 for embellishing the central library of the new University building as a tribute to the generosity of Sir Jesse Boot, Bt., through whose donations the building is being erected on a handsome scale.

Insurance Dispensing Terms

England and Wales

THE Retail Pharmacists' Union have sent out a circular to Pharmaceutical Committees giving the grounds which the Committees are asked to place before the panel chemists in their district. The reasons why the Conference of Representatives of Pharmaceutical Committees recommend chemists to accept the offer of the Ministry of Health that the Drug Fund should be taken over by the chemists' representatives are given as follows:—

(1) The Government had, through the Economy Act, 1926, rationed the Ministry of Health and limited the amount available for drugs and medicines to the sum mentioned in that Act, and had withdrawn further Treasury grants or guarantees. Further, a special grant had been refused.

(2) The Ministry of Health intimated that in these circumstances the money available would have to provide the service.

(3) The Ministry stated that there was reason to believe that if the Drug Fund was administered by the R.P.U. it could be made solvent, although during 1926 it was over-spent.

(4) The alternative was for the Ministry to make a "cut" large enough to ensure safety for themselves, but greater than any cut the chemists would need to make if administering the fund themselves. This cut was estimated by the Ministry as about 1d. per prescription.

(5) The taking over of the fund meant that the chemists would get all the money in the fund, whereas the Ministry, under any other arrangement, would always retain a balance to meet contingencies; further, the advantage gained by introducing economies would belong to the chemists after the fund is solvent.

(6) The fund is not likely to be more than 15 per cent. overspent in 1927, and there is every reason to think that with care in administration this can be replaced by surpluses in succeeding years, which will be paid to the chemists and compensate for the earlier reduction in payment.

(7) An undertaking was given by the Ministry that there should be an opportunity of breaking the contract between October 1, 1923, and January 1, 1929, also at any time during the six years which the contract would cover if the Fund was overspent more than 15 per cent. over a period of two successive years.

(8) The Ministry of Health undertakes to support the chemists' representatives in their efforts to secure economy, and the powers of the Pharmaceutical Committees will be restored in regard to extravagant prescribing.

(9) The Drug Tariff and scale of fees will be under the control of the chemists.

(10) The amount of money available per insured person may be regarded as sufficient if the extravagance and frequency of the prescribing can be controlled to some extent.

The circular deals with other general details, and concludes: Chemists on the panel are recommended by the Conference of Representatives from Pharmaceutical Committees to accept service under the new conditions. The present tariff will remain in force; no change in payment will be made until the end of June, then the payments will be reduced in July and until the end of the year by such an amount as will ensure the solvency of the Fund. The amount withheld for the year ending December 31, 1927, should not exceed 15 per cent. of the accounts; if, however, this is in excess of what is required the balance belongs to the chemists. This deduction replaces the "cut" which the Ministry would have made for the same period.

Any chemist who retires from the panel at the commencement of these new conditions will be paid in full up to the time of his retirement, but he will only be able to secure readmission to the panel on such terms and conditions as may be specified in respect of such cases by the R.P.U. Central N.H.I. Committee.

It is clear that those who remain on the panel will have to carry the responsibility of obtaining solvency for the Fund during the remainder of 1927, and any chemist who resigns cannot be allowed to return to the panel and benefit by improved conditions which obtain later upon the same terms as those who have remained upon the panel.

With the support of every chemist in promoting economy through the medical men frequenting their pharmacies, and the united efforts of both the local and national committees, it should be possible to reduce the demands upon the Drug Fund to such an extent that any

question of discounting will be removed, and a return to higher dispensing fees ensured.

Scotland

The Pharmaceutical Standing Committee (Scotland) has sent out with a Drug Tariff Appendix a notice regarding the extension of the term of office of Pharmaceutical Committees until May 31, 1929. The circular also refers as follows to the question of the differences in the cost *per caput* of drugs and appliances in Scotland and England:—

We take this opportunity of referring to statements which have recently appeared in the daily Press, as well as in the pharmaceutical Press, with regard to cost of drugs and appliances. It is necessary to point out that all these statements refer to conditions in England and Wales and not to conditions in Scotland. It is stated, for example, that the cost of drugs and appliances for 1926 shows an increase over 1925. So far as Scotland is concerned, while the number of forms for 1926—namely 2,760,057—was the greatest for any one year since the inception of National Health Insurance, the cost was actually rather more than £2,000 less than for 1925. It would appear that for England and Wales in 1926 the cost *per caput* for drugs and appliances was approximately 50 per cent. greater than in Scotland. It also appears that the price *per form* in Scotland for 1926 shows a decrease of approximately 4 per cent. from that of 1925.

As previously announced, it was agreed in November 1926 that the Pharmaceutical Service in Scotland for 1927 would be on the same terms as for 1926. The question will come up for adjustment for 1928 at a later date.

Personalities

MR. L. M. WELLS has been appointed the London area representative of Nyal Co., Ltd., London, W.C.1.

THE team skipped by Mr. J. M. James, chemist and druggist, King Street, London, W.6, won the rink championship at the Richmond open bowls tournament during Whit-week.

MR. F. J. DYER, B.Sc., A.I.C., Ph.C., assistant secretary of the Pharmaceutical Society, has been appointed head of the pharmacy department of Bradford Municipal Technical College.

MR. H. TIBBATS, "Belmont," Duston, Northampton, is representing Arthur H. Cox & Co., Ltd., manufacturing chemists, Brighton, in Bedfordshire, Lincolnshire and the Midlands.

MR. R. A. KING, a director of Sive Brothers & Karnovsky, Ltd., chemists, Johannesburg and Durban, is at present in London, and can be addressed c/o Scholefield, Goodman & Sons, Ltd., 23 Lime Street, E.C.3.

MR. A. F. MARR (Marr's Drug Store, Oakland, California) and Mrs. Marr, who are on a visit to this country, expect to be in London on June 18. Correspondence may be addressed c/o THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.4. Mr. Marr intends visiting the British Pharmaceutical Conference as a delegate from the Alameda County Pharmaceutical Association.

MR. MOHANILAL K. SHAH, the Indian representative of Burgoyne, Burbidges & Co., Ltd., East Ham, London, E.6, is now in England for the purpose of becoming better acquainted with British business methods. Mr. Shah has represented the company in the bazaars of Bombay for the past sixteen years.

MR. A. C. ALLEN, who left England just over two years ago to take up the post of general manager of Frank Ross & Co., Ltd., Calcutta, is back in England, and may be addressed c/o Barclays Bank, Ltd., Regent Street, Swindon. Mr. Allen was for many years general manager of a Swindon firm of chemists, and in 1924 was President of the Swindon Chamber of Commerce.

MR. C. H. BEMBRIDGE has received an appointment to take over the control of William Alfred Jones, Ltd., wholesale and export druggists, West India House, Maryland Street, Liverpool. Mr. Bembridge has had wholesale and export experience since 1918, prior to which he was for fourteen years in the foreign department of Burroughs Wellcome & Co., London.

Births

Notices for insertion in this column must be properly authenticated.

SUTHERLAND.—At 28 Blacket Place, Edinburgh, on June 12, the wife of James R. Sutherland, chemist and druggist, Dalkeith, of a daughter.

Marriages

ANDERSON—ADAMS.—At Aberdeen, on June 9, William Anderson, chemist and druggist, Forres, to Lily C. G. Adams, M.A., Aberdeen.

BALDWIN — ARNOLD. — At Tiptree Congregational Church, on June 6, Clifford Richard Baldwin, M.P.S., only son of Mr. R. Baldwin, Colchester, to Kathleen Louise Arnold.

ELSEY—BARNETT.—At St. Leonard's Church, Hythe, Kent, on June 15, Francis S. Elsey, chemist and druggist, to Audrey Barnett, elder daughter of Mr. H. Barnett, chemist and druggist, Hythe.

HURST—TOWNSON.—At St. Aiden's Church, Leeds, on June 8, Joseph W. Hurst, M.P.S., Woodhouse, Street, to Irene Townson.

LYLE—ARTHUR.—At Cowdenbeath, on June 8, by the Rev. J. MacMorland, B.D., Cowdenbeath Parish Church, John Lyle, M.P.S., eldest son of Mr. Peter Lyle, "St. Anns," Burntisland, to Margaret Waddell, daughter of Mr. James Arthur, 258 Perth Road, Cowdenbeath.

Wills

MR. HORATIO NELSON BOLTON, jun., 5 Devonshire Terrace, Lancaster Gate, London, W., managing director of T. F. Bristow & Co., Ltd., perfumers and soap manufacturers, who died on March 3, left £29,018 19s. 4d., with net personalty £28,037 11s. 6d. The will and codicil are proved by Mrs. Bolton, the widow, and Bert Carpenter, 75 Duke Street, Grosvenor Square, W. He leaves all the property in trust for his wife during widowhood, and then for his children.

ALDERMAN EDWARD GILBERT RIGBY WATSON, chemist, Beccles, who died on April 17, left £11,122 9s. 10d., with net personalty £7,513 6s. 3d. The executors are his sons, Cecil H. J. Watson, Aldeburgh; Linley A. Watson, Beccles, and Edwin A. Watson, Bishops Stortford. He gives his business at Beccles, with the stock and fixtures, to his son, Linley Arthur; £300 each to his sons, Cecil Henry James, Linley Arthur and Edwin Algonon; and the residue between his daughters, Ethel Annie Jennette, Mary Edith, and Irene Lizzie.

MR. JOHN WYNNE TIGHE, chemist and druggist, 3 and 4 High Street, Exeter, who died on March 13, left estate of the gross value of £8,491 5s. 11d., with net personalty £2,130 16s. 11d. Probate has been granted to his widow, Mrs. Florence Mary Tighe, and his son, Cyril Wynne Tighe. The testator left his interest in his business, stock-in-trade, etc., to his sons; Cyril Wynne and Paul Wynne, they to pay £5 a week to Mrs. Tighe for life, his premises, 4 High Street, Exeter, to his wife for life, and then for his two sons in equal shares, and the residue of the property to his wife.

MR. ROBERT WILLAN, retired chemist, The Lawn, Ulverston, who died on February 17, left estate of the gross value of £14,603 12s. 11d., with net personalty £5,773 2s. 6d. Probate has been granted to his widow, Mrs. Marie Bertha Willan, and his daughters, Miss Jane Elizabeth Willan and Miss Lucy Isabel Willan. The testator gave legacies to servants; £100 to his ward, Miriam Agnes France; £100 a year to his wife if the income from the residuary estate shall exceed £400 a year, £75 per annum if it is £300 a year, or £50 a year if it is less than £300; and subject thereto the remainder of the income from the residuary estate to his daughters and the ultimate residue of the property he left as to two-thirds to his daughter, Lucy Isabel, and one-third to his daughter, Jane Elizabeth.

Deaths

CROOK.—At 1 Barum Top, Halifax, recently, Muriel Louise, wife of Mr. Oscar Crook, chemist and druggist.

CULF.—Recently, Mr. John Carington Culf, for nearly fifty years chief dispenser at Ipswich Hospital, aged eighty-four. Mr. Culf was held in high esteem, and his funeral at Ipswich cemetery was attended by a numerous gathering.

EVANS.—Recently, Mr. Vivian Richards Evans, Ph.C., son of Mr. David Evans, chemist and druggist, 136 Chepstow Road, Newport, Mon., aged twenty-four. Mr. Evans, who passed the "Major" examination last year, was accidentally drowned while bathing near Morfa Head, Pembrokeshire.

FISHER.—Recently, Mr. Richard Fisher, retired chemist and druggist. Mr. Fisher was in business at 6 Orchard Street, Preston, for fifty years, retiring six years ago. He was succeeded in business by his nephew, Mr. S. R. P. Fisher, Ph.C.

GUTTERIDGE.—At the residence of her daughter, 60 Watergate Street, Chester, on June 14, Mary Elizabeth, dear mother of Mr. Fred L. Gutteridge (representative of Evans Sons Lescher & Webb, Ltd.), aged eighty-nine.

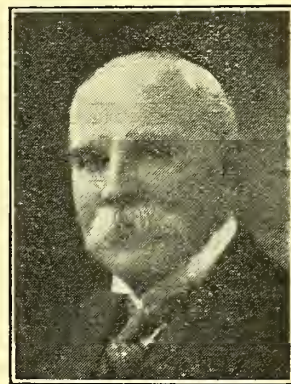
JACKSON.—At his residence, Glenview, Hafod Road, Hereford, on June 4, Mr. Joseph John Jackson, Ph.C., senior director of Chave & Jackson, Ltd., chemists, 6 and 7 Broad Street, aged seventy-three. Mr. Jackson was born at Claverley, Shropshire. After serving his apprenticeship with Deighton & Smith, Bridgnorth, he gained wider experience as an assistant with Squire & Sons, Ltd., Oxford Street, London, W.1, and passed the Major examination in February 1879. About this date he purchased the business of the late Mr. Chave, Hereford, and carried it on as Chave & Jackson till 1907, when a private limited company was formed, with Mr. Jackson as managing director. The business will be continued by Mr. E. M. Whiting, chemist and druggist, who has been a director of the company since its formation. Mr. Jackson will be remembered by many readers of THE CHEMIST AND DRUGGIST as a vigorous and well-informed contributor to our correspondence columns in past years. Locally he was much esteemed for the part he took in securing for the Hereford Corn Exchange trustees a valuable piece of property, with the result that a handsome building has been erected for the combined purposes of a public hall, corn exchange and theatre: the venture quickly became self-supporting, and now devotes a portion of its profits to agricultural competitions.

MASON.—At Workington, Cumberland, on June 14, Mr. Joseph Robert Mason, chemist and druggist. Mr. Mason, who qualified in 1880, succeeded his father, Mr. Daniel Mason, in business at 4 Pow Street, Workington, and carried on the pharmacy, at first in partnership with his brother, Mr. Jonathan Mason, and subsequently alone, until his retirement in 1919.

PORTLOCK.—Recently, Mr. Francis Portlock, chemist and druggist, at one time in business at Wotton-under-Edge. Mr. Portlock qualified in 1894.

SPENCER-LLOYD.—At 204 High Street, Treorchy, Glam., on June 12, Catherine Mary, beloved mother of Mr. D. Spencer-Lloyd, chemist and druggist, aged fifty.

THE British Museum Trustees have acquired, through the generosity of the Rev. H. T. Inman, the prism used by Sir Isaac Newton for his original experiments.



MR. J. J. JACKSON, Ph.C.

Trade Notes

FRENCH OLIVE OIL.—Scowen, Clark & Co., 58 Gracechurch Street, London, E.C.3, have been appointed sole selling agents for J. Creisson Fils, Salon-de-Provence, for Great Britain (except Devon, Cornwall and Glasgow) and the Overseas Dominions.

CLOSED FOR OUTINGS.—The following wholesale houses inform us that, owing to the annual outing, their premises will be closed on the dates mentioned: Meggeson & Co., Ltd., Bermondsey, London, S.E., June 18; Baiss Brothers & Co., Ltd., Bermondsey, London, S.E., June 25.

GERMAN GALENICALS.—Charles Sallaz, Ltd., 66 Finsbury Pavement, London, E.C.2, have been appointed sole agents for the United Kingdom for Bass & Keller, Langenargen. A price-list of the various pharmaceutical preparations has been issued and can be obtained on application.

ZENDA MOTH TABLETS.—Arthur H. Cox & Co., Ltd., manufacturing chemists, Brighton, are offering in this issue Zenda moth tablets, composed of new ingredients, which, whilst very effective as moth preventives, are unobjectionable in smell. The tins of thirty-two tablets retail at the protected price of 1s. 3d.

TOY BALLOONS.—Reliance Rubber Co., Ltd., 212 and 213 Upper Thames Street, London, E.C.4, issue a special list of seamless rubber advertising balloons. They are made in various shapes and colours and the advertiser's name is printed on at a small cost. Moulded rubber tobacco pouches for advertising purposes are also offered.

WILLIAM ALFRED JONES, LTD., West India House, Maryland Street, Liverpool, have been appointed sole selling agents for the original antiseptic pastilles and "Throatlets" introduced by the late Mr. Wm. Alfred Jones. They have also been appointed sole export agents for "Vapex" and other products of Thomas Kerfoot & Co., Ltd., Bardsley Vale, Lancashire.

A. S. PRICE & CO., LTD., Blackheath, Birmingham, have purchased the rights in the trade-marks "Blue Crystal" and "Ma-me-San," previously belonging to Fletcher, Ritson & Co., Ltd. (successors to "Chrysoids"), Bootle, Liverpool. Messrs. Price are now able to supply any of the packed goods and special preparations sold under these brand names.

NATA.—Spencer Brothers, 17 Farringdon Avenue, London, E.C.4, have brought out a preventive for gnat and midge bites under the name "Nata." The special point about Nata is that it is a solid in pencil form, and hence very convenient for carrying about. The short stick is wrapped in tinfoil and enclosed in a screw-capped wide-mouth phial. Nata, which is also used as an application to bites, retails at 8½d. and 1s. 3d., and is obtainable from wholesale houses.

JEYES' NEW SHOWROOM.—Jeyes' Sanitary Compounds Co., Ltd., who have removed to more commodious premises at Victory House, 99 Regent Street, London, W.1, have arranged an attractive showroom where are displayed the various products of the company. The preparations will thus be brought before a larger public, at the same time the retailer is not to lose his profit on the articles sold, as a system has been inaugurated of passing the profit on to the local chemist with whom the customer deals. For this purpose customers will be asked to give the name of their usual chemist.

BAIRD & TATLOCK'S CATALOGUE.—Baird & Tatlock (London), Ltd., laboratory furnishers, 14-15 Cross Street, Hatton Garden, London, E.C.1, have issued Volume III of their catalogue, dealing with the apparatus required in the biological sciences. The catalogue is a handsome volume measuring 11¼ x 7¾ in., and containing 500 pages. The sections of the list deal with: (1) Anatomy and embryology; (2) biology; (3) microscopy and histology; (4) bacteriology and protozoology; (5) pathology; (6) hygiene; (7) agriculture; and (8) scientific books. The catalogue is fully illustrated, and the descriptions and uses of the various apparatus make the work a complete textbook and the reading of it a liberal education. Prices are given, and there is a complete index at the end.

Trade-marks Applied for

The figures in parentheses refer to the classes in which the marks are grouped. A list of classes and particulars as to registration are given in "The Chemist and Druggist Diary," 1926, p. 309.

(From "The Trade-Marks Journal," May 25, 1927.)

- "VITAMALT": for medicinal malt preparations (3), and for extract of malt (42). By Boots Pure Drug Co., Ltd., 37 Station Street, Nottingham. 478,419/721. (Associated.)
- "LIQUID SUN": for a medicine (3). By The Analgit Co., Ltd., 102 Wilmslow Road, Didsbury, Manchester. 479,255.
- "NEOPHAGE": for medicinal chemicals (3). By E. Jammes, G. Wisner, L. Weyl-Lambert, and R. J. B. Delcamp, 86 Rue Michel-Ange, Paris. 479,871.
- "ARTEROSAN": for medicinal chemicals (3). By Institut Séro-Thérapique et Vaccinal Suisse Berne, Laupenstrasse 4a, Berne, Switzerland. 480,058.
- "OSCODAL": for medicinal chemicals (3). By H. A. Metz Laboratories Inc., 122 Hudson Street, New York, U.S.A. 480,078.
- "ISOLAR": for photographic apparatus, etc. (8). By I. G. Farbenindustrie Aktiengesellschaft, Mainzer Landstrasse 28, Frankfurt-on-Main, Germany. 471,699. (Associated.)
- "ELIMA": for all goods (3). By A. Hartley, 37 Standish Street, Burnley. 480,025.
- "SANISQUARES": for surgical instruments, etc. (11). By Cuxson, Gerrard & Co., Ltd., 25 Fountain Lane, Oldbury, Worcestershire. 479,766.
- "CLAN": for orange and lemon squash (42). By R. Drysdale & Co., Ltd., 31 Albany Street, Edinburgh. 478,786.
- "ADVITA": for food substances (42). By Lever Brothers, Ltd., Port Sunlight, Cheshire. 475,191.
- "TORAZ": for shaving soap (48). By Toro Tablet Co., Ltd., Watery Lane, Birmingham. 468,181.
- "BAG-DABS": for perfumes, toilet powder and toilet water (48). By Parfums Edouardo, 20 Broad Street, New York, U.S.A. 476,354.
- "SOLWEIG": for perfumery, etc. (48). By A. Martory, 18 Rue Daunou, Paris. 478,774.
- "LEHCARESOR" "PAPIER POUDRÉ": for a skin preparation (48). By Papier Poudré, Ltd., 46 Baker Street, London, W.1. 479,514. (Associated.)
- "CALYX": for shaving brushes (50). By S. W. Brockies, 157 Stanstead Road, Forest Hill, London, S.E.25. 478,440.
- "FORMAECTANT": for dust-laying compounds for floors (50). By The Formalin Disinfectant Co., rear of 26 Millbay Road, Plymouth. 479,888.

(From "The Trade-marks Journal," June 1, 1927.)

- Device, including letters "I G" ("I G" disclaimed): for all goods (1), (2), and (3). "LAVENTIN": for all goods (1). By I. G. Farbenindustrie Aktiengesellschaft, Mainzerlandstrasse, 28, Frankfurt-on-Main, Germany. 475,900/901/902 (Associated): 480,015.
- "IRGANAPHTOL": for chemicals (1). By J. R. Geigy Société Anonyme, 51 & 57 Riehenring, Basle, Switzerland. 477,956. (Associated.)
- Device of ring and stars: for chemicals (1). By Standard Oil Co., Constable Hook, Bayonne, Hudson County, New Jersey, U.S.A. 478,436. (Associated.)
- "HYDRAX": for water softening preparations (1). By Beeco Engineering & Chemical Co., Ltd., Fitzalan House, Arundel Street, London, W.C.2. 479,592.
- "CODLIVEX": for all goods (2). By Tetmal, Ltd., 45 Farringdon Street, London, E.C.4. 479,977. (Associated.)
- "ROBUSTO" on device, including boar's head in circle: for medicated wine (3). By A. P. Threlfall, 71 Market Street, Colne, Lancashire. B 473,563.
- "STIM" on label device: for medicinal chemicals (3). By Standard Laboratories, Inc., 113 West 18th Street, New York, U.S.A. 473,849. (Associated.)

Information Department

INFORMATION WANTED

Postal or telephone information with respect to makers or first-hand suppliers of the undermentioned articles will be appreciated:

D/305. Burval's amber perfume	E/146. Knoxall Cleaning Spirit
M/156. Dr. Allingham's Pile Cure	A/136. Nicholl's Volta Cloth
M/245. Dr. West's tooth-brushes (not Wessler)	T/96. Shaw's Distemper Cure for Dogs
B/265.—Kissproof lip-stick (London depot)	L/195. Sterling's dental floss (London agents)

Observations and Reflections

By Xrayer III

Unusual

to read of medical practitioners being summoned before the General Medical Council on charges involving the illegal sale of poisons, such as those printed in your last week's issue (*C. & D.*, June 11, 1910), and I was particularly interested to observe the complainants were the Pharmaceutical Society of Great Britain. It is exceedingly gratifying to find it has been possible to induce the General Medical Council to exercise disciplinary action. The keeping of a shop by medical practitioners is a relic of antiquity, which ought to be abolished, and it seems particularly a form for doctors to practise in this way with qualified persons in charge.

Nurses' Discounts

may at times be claimed when the allowance of the 10 per cent. is not strictly justified, but I question the likelihood of the abolition of the custom of giving a discount to nurses, as was suggested and agreed at the recent conference of the Retail Pharmacists' Association delegates (*C. & D.*, June 11, p. 711). Why should be considered necessary to interfere with a practice which has its useful points simply because abuse has been allowed to creep in? I should have thought the proper remedy was the checking of the abuse; but apparently there are still many people afflicted with similar density that of the Chinaman who found it necessary to burn down his house in order to obtain roast pig. It is not though it were practicable to bring all chemists into line. Some will continue to allow the 10 per cent. discount to nurses in any case, and they, of course, will reap the reward of securing the custom of more nurses.

British Pharmaceutical Conference Papers

promise to be both interesting and useful, judging from the list you publish (*C. & D.*, June 11, p. 726). Galenical pharmacy still receives a fair share of attention from the contributors of papers, while pharmaceutical chemistry takes a good show, and the vitamins are not neglected. Poisons and their constituents also provide something to talk about, in spite of the length of time they have been known and the number of investigators who have previously dealt with them. The reason for this is that, to a considerable extent, earlier investigators were not sufficiently precise in their methods. Results were not, as a rule, considered satisfactory unless an alkaloid or a glucoside was discovered, and, if anything of the kind was found for the first time in a particular drug, it was generally the custom to assume that it was something entirely new, though subsequent research often proved that the same alkaloid or glucoside existed in some other drug or drugs under a different name. The late Dr. Power's work was remarkable for its accuracy in this respect. When Dr. Power undertook the examination of a drug, he was not satisfied until he had exhausted all possibilities in the shape of chemical constituents, with the result that his published monographs told us all about the chemistry of the drugs examined and left little or nothing for anyone else to discover.

Mr. J. C. Thompson

presents the case for Middlesbrough Pharmaceutical Committee (*C. & D.*, June 11, p. 732) in a way that should induce other pharmaceutical committees for underspent areas to reflect. There ought to be no question about each area having the first call upon its own allocation, and it is a distinctly generous suggestion that any surplus remaining in a given area shall be diverted to assist areas which overspend their allocations. But I doubt if anything like this is intended by the R.P.U. Executive, and the probability is that we shall be told in due course that all our representatives agreed to leave the entire arrangements in the hands of that body. Acceptance of the general principle which Mr. H. J. Martin was at such pains to stress may prove to have committed us to such methods of applying that

general principle as Mr. Martin and his colleagues decide upon, without further consultation with the pharmaceutical committees. Safeguards appear to be necessary all round, not only against excessive prescribing by doctors, but also against preferential treatment being accorded by the R.P.U. to overspent areas which, for one reason or another, may have friends at court.

The Old Prescription

for Queen Isabella transcribed by your Paris correspondent (*C. & D.*, May 28, p. 635) is, as he points out, but one of the many MSS. which are deposited in the Sloane collection in the British Museum. It is much to be desired that they should be examined in detail, because, as in this case, evidence of a more precise character than exists at present might be obtained as to the introduction of drugs into Europe and into Great Britain. Your correspondent thinks that "note megio" (the last letter is probably "s") is nutmeg, and he is certainly not mistaken. I am led to ask if any earlier mention of nutmegs has been met with in any English documents. Flückiger and Hanbury ("*Pharmacographia*") do not mention so early a date as the beginning of the fourteenth century; this prescription must have been written in the first third of that century. Rather curiously, these authors have not made much use of general literature in compiling their historical notes; consequently they have overlooked the references to nutmegs in such works as those of Chaucer. In Chaucer's "*The Romaunt of the Rose*," in the description of the trees we read:—

"And trees ther were, greet foisoun
That baren notes in hir sesoun,
Such as men notemigges calle."

and in "*Sir Thopas*":—

"And notemuge to putte in ale,
Whether it be moyste or stale."

If we accept Dr. Pollard's view, "*The Romaunt*" was, perhaps, written about 1369, so the prescription precedes this by thirty years.

Among the Sloane MSS.

there is other evidence of a knowledge of nutmegs and their medicinal virtues. When the late Professor Henslow published his "*Medical Works of the Fourteenth Century*" he made use of several items in the Sloane collection, and refers to other items which had been culled from the same collection by Fritz Heinrich. The following is one of the recipes transcribed from one of the Sloane documents: "To make thy stomak hot and to comfortin it—Take note-migys, clowys, commyn, sourmouteyn (bishop's weed) of eche a quartoun of an ounce; after, put a lityl porcioun thereof in olde ale with crommys of soure brede, and menge hem wel to-gedyr, and ete hem fastyng." As another instance of the preparations in which nutmeg was employed this will serve: "*Aqua aromatica sic fit*—Take notmige and holow gelofere, canel, and a lityl quantite of caumfere, and muste (musk) that be good; and than of alle these make powder, and do it in water of rose a day and a nyght; and after pure it and clense it, and do it in a viol of glase." This was transcribed by Henslow from a Harleian MS. of approximately the same period as the previous one. It is interesting to note that musk is included with nutmeg in this case. No one would be inclined to-day to suggest that these drugs were at all similar in odour or that they were at all alike in their action on the digestive organs; but our forbears evidently found some resemblance, because there is small doubt that the name "nutmeg" is derived from the O.F. "*nois muge*"—musky nut.

CHEMISTS DISCUSSED BY CO-OPERATORS.—At the June meeting of the Rochdale Equitable Pioneers' Co-operative Society a member inquired whether the committee would consider the establishment of a pharmacy department. Chemists, he added, seemed to be "doing better than doctors." Another speaker asserted that chemists were "making a tremendous lot of profit." On the President remarking that the matter was full of difficulties, he was urged to get a "ring" broken. The subject then dropped.



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Editorial Articles

Chemists and the Drug Fund

THERE are many questions involved in the new proposals of the Ministry of Health regarding chemists' terms of remuneration for Insurance dispensing. The more they are examined, the more the conviction increases that chemists stand to lose considerably over the bargain, and that only good statesmanship and a vigorous prosecution of investigations into the character of prescribing will enable chemists to gain anything. The position apparently is that up to the end of June 1927 the old arrangements will hold good. The contract that has existed for the last three years will be extended for two months, from May 1 to June 30, and all accounts for the first six months of the current year will be paid in full. From July 1, 1927, the amount available for drugs and appliances will be strictly limited, and chemists will have to submit to a scaling down of their accounts if the total cost of prescriptions for the country exceeds the total amount available in the drug fund. Discounting for the year 1927 is practically certain. The deduction which, it is suggested, may be necessary is 15 per cent. To avoid a continuance of this very unsatisfactory state of affairs, the Retail Pharmacists' Union will take immediate steps to put into

operation a scheme whereby Panel and Pharmaceutical Committees, acting jointly with Insurance Committees (in all areas possibly, but certainly in those areas where the drug fund is overspent), will examine prescriptions and endeavour to secure among the local practitioners more economical habits of prescribing. It is hoped that the effect of the "investigation of prescribing scheme" (details of which are not yet available) will be to bring about a gradual and progressive reduction in the general cost of prescriptions. It is expected that more and more money will be saved as time goes on, that possibly before half of the new six-year contract has expired normal payments in full will be restored, and that in the later years a profit will be made on the existing tariff rates of payment sufficient to pay off in full the old discounting debts which are bound to be incurred now. Frankly, this appears to us to be a tough "proposition." The Retail Pharmacists' Union, however, has agreed to tackle the problem, and it is understood that the scheme which is to effect these results is now being evolved. Schemes, however, in themselves will never pay chemists' accounts. It must be obvious that nothing short of a transfer of actual cash from the practitioners' fund to the drug fund or, alternatively, a drastic pruning of prescriptions in order to forestall all forms of wasteful and unnecessary expenditure, will make the drug fund solvent and compensate within the limits of the new contract for an initial deficit of 15 per cent. We believe that action will have to be taken in more than one direction if the results so much desired are to be achieved. We suggest that there are at least three important avenues by which the problem should be approached:—

(1) A strict interpretation of the term "proper and sufficient medicine," to which, according to the Act, insured persons are entitled.

(2) A modification of the drug tariff and a readjustment of dispensing fee values. When it is known that the amount available must be made to go round it would appear to be better to agree beforehand to remuneration for some preparations on a slightly lower scale than submit later to a flat-rate cut as discount.

(3) A close and continuous scrutiny of prescriptions; but the value of this method is entirely dependent upon the power and willingness of the Ministry of Health to give practical effect to any reasonable economies recommended by the Retail Pharmacists' Union.

We do not view the position as being without hope. We repeat, however, that the success of the experiment depends almost entirely on the ability of the R.P.U. to suggest and the power of the Ministry of Health to enforce economies in prescribing. The measure of success which has attended the efforts of Panel Committees in this direction during the last ten years does not stir any impartial observer to enthusiasm. It has been stated that the new arrangements giving Pharmaceutical Committees control of the drug fund will increase their status and enhance the position of all contracting chemists in that promised millenium when county and borough councils will supersede Insurance committees. It may indeed be so. This argument regarding status, however, seems familiar. It has worn somewhat thin with use, and has probably ceased to impress chemists who, because of their bitter experience in the early years of Insurance dispensing, may well be pardoned for placing a higher value on a cash balance. It remains now to follow up the decision of the recent conference of Pharmaceutical Committee delegates. Faced with the alternative of a drastic and probably permanent cut in remuneration, it seemed inevitable that the choice of the R.P.U. should fall upon control of the drug fund with all its possibilities. Chemists, therefore, must take a long view of the situation, and must exercise patience and forbearance while the new schemes are given a fair trial. Only time can prove whether the sanguine prognostications of the Executive Committee of the Union will be justified by results.

Summer Outings

An Evans Lescher Day

THE London staff of Evans Sons Lescher & Webb, Ltd., spent an enjoyable day at Brighton on June 11, the occasion of their annual outing. Dinner was served at Chatfields Hotel, with Mr. T. Edward Lescher, O.B.E. (managing director), in the chair, supported by Messrs. C. Andersen and T. C. Hewitt, directors. Mr. H. Baker proposed "The Company," which was responded to by the chairman. After dinner excursions were made to various places of interest, and although the latter part of the day was marred by rain it was a happy band that arrived back at Victoria just before 10 p.m.

Botanical Excursion

THE Junior Section of the South-West London Chemists' Association held its first botanical ramble on May 29, when forty members, conducted by Dr. Nellie Carter (Examiner in Botany to the Pharmaceutical Society) and Miss Hughes, walked from Coulsdon South by Farthing Downs and Chaldon to Alderstead Heath, where a halt was called for lunch. Afterwards, proceeding by Pilgrim's Way to Coulsdon Common. Among those present were Miss A. T. Borrowman, Miss G. Dennis Hayes, Miss Alice Hughes, Miss Bedell, and Mr. A. R. Rowlands. The specimens collected included *Bryonia Disica*, *Salix alba*, *Digitalis purpurea*, *Atropa Belladonna*, *Solanum dulcamara*, *Conium Maculatum*, *Tamus Communis*, *Prunella Vulgaris*, *Silene Inflata*.

Women Pharmacists' Ramble

ON June 12 members and friends of the National Association of Women Pharmacists met at Woldingham Station for an all-day ramble led by Miss D. A. Coulson. The first part of the walk lay through Marden Park and then along a delightful country road to the quaint village of old Godstone. At Tilburstow Hill a halt was called for lunch, the walk being afterwards continued across the old Roman Road. Tea was enjoyed at the Claytone Arms, where the party was met by Mr. and Mrs. Freke, Mr. and Mrs. Irvine, Miss Hooper (President), and Miss Borrowman. The last stage of the ramble was commenced by way of Gravelly Hill to Caterham.

Bath Chemists' Motor Trip

THE Bath Pharmacists' Association held their annual outing on June 9, when a visit was paid to Shaftesbury in motor-charabancs. The outward journey was made via Midford, Norton St. Philip, Faulkland, Nunney, Kilmington, Zeals and Mere, and everyone thoroughly enjoyed the journey, which was in brilliant sunshine. The Grosvenor Hotel, Shaftesbury, was the venue for the high tea, at which the President (Mr. E. Williams) occupied the chair, and, in giving a welcome to all, acknowledged the excellent arrangements made for the outing by Mr. W. H. Hallett, one of the hon. secretaries of the Bath Branch. Mr. E. Brake replied on behalf of the visitors. Half an hour was spent in enjoying the panoramic views, including the wide expanse known as Blackmoor Vale, and then a move was made to Wardour Castle, where the party viewed the private Roman Catholic Chapel attached to the mansion. The return journey was made via Warminster, Westbury, Trowbridge and Bradford-on-Avon.

Retail Pharmacists' Union

Southampton.—The annual meeting of the Southampton Branch was held recently, Mr. H. Jewell presiding. Mr. Martin, treasurer, reported a credit balance of £3 8s. 9d., and the secretary of the Pharmaceutical Committee reported that they had held five meetings during the year, and the Service Subcommittee had also held five meetings. A discussion was held on matters of current interest, and afterwards the following officers were appointed:—*Chairman*, Mr. H. Jewell; *Treasurer*, Mr. W. Martin; *Secretary*, Mr. W. W. Atkinson.

Trade Report

42 Cannon Street, E.C.4, June 16.

THERE is no improvement in business, trading continuing on quite limited lines, with no outstanding price changes. Cod-liver oil is steady and unchanged. Cassia fistula, kola and quillaia remain scarce. Ipecacuanha has an easy undertone. Saffron is lower, and senega is held for higher prices. Japanese refined camphor slabs, hydrastis, turmeric, Dutch caraway seed, and malo fern ext. are among the cheaper products. Among the essential oils, American wormseed has advanced, and higher quotations are made for cedarleaf and cedarwood. Bergamot is cheaper; lemon is slow and unchanged. Star anise is easier and lower prices are quoted for cassia and Bourbon geranium oils. In the pharmaceutical chemical group few changes in prices have occurred, with a slightly improved business in some items. Competition, however, continues very keen among sellers. Cocaine has suddenly declined by about 3s. 9d. per oz. Industrial chemicals are mostly unchanged with a slightly better general demand. Cream of tartar is fairly active at steady rates; sal ammoniac has been in good demand. Potassium products are all unchanged. In coal tar products, pyridine is lower, while pitch has advanced; carbolic acid crystals are easier. Among the so-called vegetable oils, the tone still continues weak, with a modicum of business. Turpentine continues to sag, owing to heavy crop movements in the United States. Linseed is lower, and palm oils continue to weaken. English castor and Hankow wood are cheaper. In "outside" articles, mercury continues to sag and Chinese antimony is cheaper.

Higher	Firmer	Easier	Lower
Balsam Canada Cumini seed (Maltese) Dextrin (Amer.) Lavender oil (Fr.) Maize starch powder Pepper Pitch Senega Spearment oil Wormseed oil (Amer.)	Cedarleaf oil Cedarwood oil Steadier Amidopyrin Pimento	Acid oils Anise, star, oil Benzols Bergamot oil Camphor (slabs) (Jp.) Caraway seed Carbolic acid crystals Hydrastis Linseed oil Mercury Palm oils Turmeric Turpentine	Antimony Cassia oil Castor oil (Eng.) Cocaine Geranium oil (Bour.) Male fern ext. Pyridine Rubber Saffron Sugar Wood oil (Hankow)

Cablegrams

NEW YORK, June 15.—Business is quiet. Cartagena ipecacuanha is cheaper at \$3.20 per lb., and Mexican sarsaparilla has been reduced to 30c. per lb. Oregon balsam of fir is lower at \$1.40 per U.S. gallon, and short buchu has been reduced to 44c. per lb. Mercury is lower at \$117 per flask. Hexamine has declined to 56c. Bismuth salts are lower; subnitrate is \$2.05, and subcarbonate \$2.40 per lb. Bromides are cheaper; potassium is now 44c. per lb., ammonium 50c., and sodium 44c. per lb.

BERGEN, June 15.—The catch of cod since the opening of the season amounts to 64,400,000, against 86,500,000 at the corresponding period of last year, and the yield of steam-refined non-freezing oil is 70,464 hectolitres, against 116,088 last year. The quotation for finest new steam-refined non-freezing Lofoten cod-liver oil is from 182s. to 184s. per barrel, c.i.f. London.

Crude Drugs, etc.

AGAR AGAR is dull of sale, Kobe No. 1 offering at 3s. 5d. per lb., and June-July shipment at 3s. 1d. per lb. c.i.f.

AMMONIACUM.—A few parcels have recently changed hands, and for good clean drop up to 11½d. per lb. has been paid. As most of the parcels in the market have been imported at round about 1s. 4d. to 1s. 6d., holders are now inclined to ask higher prices.

BALSAM CANADA is extremely scarce, the spot market being practically bare of supplies. The higher quotation of 5s. 9d. per lb., ex wharf, is asked for shipment now afloat. It is difficult to get offers from the other side, and no price is mentioned.

CADMIUM is steady at 1s. 10d. for Australian, with a fair business doing, but American is quite nominal at 1s. 11d. per lb. American production last year amounted to 810,428 lb., against 502,824 lb. in 1925.

CAMPOR (REFINED).—Japanese slabs are slightly easier on the spot at from 2s. 5d. to 2s. 5½d. per lb.

CANNABIS INDICA.—There are several inquiries on the market, and the price of Bombay tops remains steady at 30s.

CARAWAY SEED is slightly easier, Dutch offering at 37s. per cwt. c.i.f., for prompt shipment, and for August-September shipment a premium of 2s. per cwt. is asked for new crop.

CASSIA FISTULA.—Since the excess supplies were cleared at low prices there have been few arrivals, and inquiries have been numerous. A small lot of West Indian sound is offered at 40s. per cwt.

CLOVES remain dull, Zanzibar offering at 5½d. per lb. on the spot. To arrive, July-September shipment is quoted at 2½d., and August-October shipment at 7½d. per lb. c.i.f. The landings in London during the week ended June 11 were 60 and the deliveries 210, leaving a stock of 12,683 bales, against 16,075 bales in 1926, and 13,157 bales in 1925. Up to June 11 the landings of Zanzibar in London have been 13,758, against 9,650 in 1926, while the deliveries amount to 6,678, against 7,775 last year.

COD-LIVER OIL is firm but rather quiet. The deficit in the oil production continues to increase, and up to June 11 amounted to about 45,000 hectolitres, compared with the corresponding period of last year. Agents quote from 177s. 6d. to 185s. per barrel, c.i.f. London, for finest Lofoten oil.

BERGEN, June 7.—Although fishing during the past fortnight considerably improved in comparison with the preceding weeks of fishing in the Finmarken district, the total output of medicinal cod-liver oil did not reach half the production of the same period last year. The livers yield about 30 per cent. lower oil quantity compared with 1926. At the time of writing production figures now show a deficit against last year of about 45,600 barrels. No doubt during the one or two remaining fishing weeks the above deficit will be increased by a few thousand barrels. No further animation of the market has been observed during the past month. The tendency is steady, and on this side a firm market with increasing prices during fall and winter is expected. Some exporters have contracted inland heavy quantities for forward delivery at prices calculating several dollars above our c.i.f. quotation. The oil lately produced in Finmarken actually costs more than to-day's price outward. The exports from Norway to May 21, 1927, amounted to 28,522 barrels, against 28,809 and 29,229 barrels for the corresponding periods of 1926 and 1925.

BERGEN, June 11.—The catch at Finmarken last week was rather good, although not so favourable as in the corresponding week of 1926, viz., 1,900,000, against 2,900,000. The total output of the Finmarken codfishery is considerably smaller than in the previous five years up to the corresponding date of the beginning of June. The fishermen are shortly returning home, having finished the catch. The total output of all the Norwegian codfisheries—compared with that of the previous years—is as follows:—

	To	Catch of cod	Yield of steam-refined cod-liver oil	Livers for crude oils
June 4, 1927	63,100,000	69,318 hectol.	6,969 hectol.
" 5, 1926	84,700,000	114,942 "	13,841 "
" 6, 1925	56,900,000	87,945 "	9,535 "
" 7, 1924	65,300,000	108,277 "	16,144 "
" 2, 1923	46,300,000	79,145 "	16,716 "

The market continues firm. The official quotation for non-freezing steam-refined quality is 185s. per barrel, c.i.f. London, but perhaps 182s. would be accepted by a few sellers. On the other hand, there are holders who are optimistic, believing in higher prices in the autumn. It is a question, however, if consumers abroad will pay higher prices. Actually the quiet season has commenced.

DAMIANA LEAVES remain firm at from 1s. 6d. to 1s. 8d. per lb. on the spot.

DIGITALIS LEAVES.—New crop is quoted at 65s. per cwt. c.i.f.

DROSERA HERB is offered at from 4s. 6d. to 5s. per lb. on the spot.

ERGOT is quiet and unchanged, Russian or Polish offering on the spot at 2s. 8d., and to arrive at 2s. 7d. per lb. c.i.f.

CAMBOGE.—Further sales have been made at £23 per cwt. for fair Siam pipe, slightly blocky.

GUM ACACIA.—Natural Kordofan sorts offer at 42s. 6d. to 43s. per cwt. on the spot, and cleaned at 45s. per cwt.; to arrive 39s. 6d. c.i.f., and 41s. 6d. c.i.f. is quoted respectively.

HYDRASTIS is slightly easier, offering at from 18s. 9d. to 19s. per lb. c.i.f., and on the spot sellers ask 19s. 6d.

IPECACUANHA remains easy. Matte Grosso offering at from 18s. to 20s., Minas at from 18s. to 19s., and Cartagena at 14s. per lb.

JUNIPER BERRIES.—Good bold Italian on the spot offer at 33s. per cwt.

KOLA remains scarce, with West Indian halves offering at from 3½d. to 4½d. per lb., according to quality and seller.

MAGNESIUM.—There is a steady outlet, with English makers selling at 3s. 9d. to 4s. 3d. per lb. for small ingots and sticks, and quotations for powder are about 5s. to 6s. 3d., according to quality and quantity.

MALE FERN EXT. is offering for August-September shipment at from 5s. 9d. to 6s. per lb. The spot price is about 7s. 3d.

MENTHOL is the turn easier. Kobayashi-Suzuki offering at 16s. 3d. per lb., and other brands at 16s. per lb. July-August shipment is quoted at 15s. 6d. c.i.f., and down to 15s. c.i.f. for January-March.

MERCURY, under continued dullness, has shown a sagging tendency, having been affected chiefly by the attitude of weak holders, and by the weaker reports from America, where the quotation eased off to about \$117, duty paid. Spot quotations here may be called about £20 10s. to £20 15s., less the usual discount, which figures, however, are nominal in the absence of business sufficient to test the market. This level is now apparently below cost of import from the continental mines.

OLIBANUM.—Good drop is scarce at from 90s. to 95s. per cwt.

PEPPER is dearer. Fair black Singapore closes at 1s. 1½d., among 1s. 1½d., Tellicherry 1s. 2½d., and Alleppey 1s. 2d. per lb., all spot. To arrive the sales include Lampong for April-June shipment at 1s. 1½d. to 1s. 1¾d., August-October at 1s. 2½d. to 1s. 1¾d. to 1s. 2d. c.i.f. White Muntok is dearer at 1s. 1½d. spot; afloat has been sold at 1s. 10½d.; May-July shipment at 1s. 9d. to 1s. 10½d., and August-October at 1s. 9d. to 1s. 10½d. c.i.f.

PIMENTO is firm, spot offering at 8½d. per lb., and August-October shipment at 6½s. per cwt. c.i.f.

PLATINUM is still weak. The leading refiners quote £14 10s. per oz., which is being undercut by outside sellers by well over £1 per oz. There has been no improvement in demand.

QUILLARIA.—Very little is available on the spot, and prices for forward shipment are nominal at from £40 to £42 per cwt. c.i.f. Prices are expected to advance, as no further supplies will be obtainable until about November-December.

RUBBER has had a remarkably sharp set-back, having fallen practically 2d. per lb. within the past week. The fall, which has come so suddenly, has taken everybody by surprise, and all sorts of reasons are given. The plain fact is that the propaganda which we spoke of recently as emanating from America, has borne fruit, and the selling pressure has chiefly come from over the water, where it appears a heavy "bear raid" is in progress. The success of the manoeuvre has more than satisfied the operators, and although there is room for a further decline on account of the very weak tone existing in the market, and the possibility of financial trouble, great caution is at the moment being shown, and certain manufacturers are quietly buying anything cheap on the spot that presents itself. Arrivals last week totalled 2,083 tons, whilst deliveries were 1,734 tons, with a further increase of 349 tons in the stocks. The London stock now stands at 67,454 tons, against 22,281 tons at the corresponding period last year. Quotations (Wednesday, 5 p.m.): No. 1 standard ribbed smoked sheet, spot and June, 1s. 5½d.; July-September, 1s. 5½d.; October-December, 1s. 6d. per lb.

SAFFRON has been declining for some time, but prices are now steadier, from 70s. per lb. being quoted for superior Valencia down to 65s. to grade.

SEEDS.—There is very little news to report; the market still remains quiet and prices of most articles unchanged.

ANISE.—Spanish is 49s., and Russian 29s. per cwt. CANARY SEED.—A little business has been done in Mazagan at 17s. per cwt. on the spot, and 16s. 6d. c.i.f. is quoted for new crop June-July shipment; good bold Spanish is 26s. CUMIN.—Maltese is 60s. on the spot, and Morocco is quoted at 52s. 6d. c.i.f. for new crop for June-July shipment.

CORIANDER.—Morocco is 42s. 6d. spot, and 21s. 6d. c.i.f. is quoted for new crop (June-July shipment); Hungarian is 29s. FENUGREEK is 15s. 6d. per cwt. spot, and 13s. 6d. c.i.f. is quoted for new crop. DILL SEED is 21s. 6d. HEMP.—Manchurian is 14s. to 15s. LINSEED.—Mazagan is 20s. 6d. spot, and 19s. 10½d. is quoted for new crop, July-August shipment. MUSTARD.—English is 29s.

SENEGA is dearer at 3s. 5½d. per lb. c.i.f., and on the spot prices are also higher at from 3s. 5d. to 3s. 6d. per lb., according to seller. The cheap parcels having been cleared recently the remaining stocks are firmly held.

SHELLAC is firmer at the close, usual standard TN orange quality offering on the spot at 230s.; fine orange is 240s. to 325s., pure button 275s., and AC cake 210s. to 215s. For delivery the sales include August at 220s. to 227s. 6d., October at 230s. to 223s. 6d. to 232s. 6d., and December at 232s. 6d. to 226s. 6d. (closing sellers, 238s.). To arrive TN for May-June shipment has been sold at 220s. to 222s. 6d. c.i.f., and July-August shipment at 220s. to 217s. 6d. c.i.f. Calcutta spot is rs. 100.

TURNERIC.—Fair Madras finger is the turn easier at 27s. 6d. to 28s. per cwt., although 30s. is still maintained in some directions. Cochin split bulbs are firm at from 19s. to 20s.

WAX, BEES.—The sales include good Abyssinian block at £8 12s. 6d. per cwt.

WAX, CARNAUBA, is steady and unchanged, with an upward tendency for forward shipment. Prices on the spot are at about last week's parity (p. 729).

WAX (VEGETABLE).—Japanese remains firm, spot offering at from 100s. to 102s. 6d. per cwt. April-May shipment is 91s., May-June 89s., and June-July shipment 88s. 6d. per cwt. c.i.f.

Essential Oils

THE demand for essential oils continues slow. Lemon is dull and the easier tendency is maintained. American wormseed is dearer. Cedarleaf and cedarwood oils are firmer. Star anise is cheaper, and bergamot is slightly easier. Lower quotations are made for cassia and Bourbon geranium. Cochin lemongrass is quiet and easier.

The following are the quantities and values of natural essential oils (other than turpentine) imported into and re-exported from Great Britain during May, 1927, compared with the same months in 1925 and 1926, also for the five months in the respective years:—

		1925	1926	1927
May imports (other than turpentine)	lb.	375,788	282,435	316,852
	value	£115,613	£101,323	£95,294
Jan.-May imports	do.	1,907,291	2,041,607	1,554,380
	value	£605,448	£677,078	£476,972
May re-exports	do.	92,812	42,430	81,844
	value	£36,173	£19,241	£34,499
Jan.-May re-exports	do.	449,478	363,197	341,196
	value	£167,097	£144,054	£148,616

ANISE (STAR).—"Red Ship" on the spot is easier at from 2s. 7d. to 2s. 7½d. per lb. For shipment 2s. 2d. in drums and 2s. 4d. in leads, c.i.f. to arrive, have been quoted, but lower bids would be entertained.

BERGAMOT is slightly easier on the spot, with sellers at from 25s. to 25s. 6d. per lb. for 37 to 38 l.a.; for shipment 24s. to 25s. c.i.f. is quoted.

CAMPHOR OIL.—Japaneso white or brown is quoted on the spot at 60s. per cwt.

CASSIA on the spot is dull and cheaper at 6s. 9d. per lb. for 80 to 85 c.a. For shipment around 6s. c.i.f. is quoted.

CEDARLEAF.—American has been in better demand and is firmer, offers being made at 5s. 3d. to 5s. 6d. per lb. c.i.f. to arrive.

CEDARWOOD.—American is firmer on the spot at 1s. 6d. per lb. in drums and 1s. 8d. cases.

CITRONELLA.—Ceylon is unchanged at 1s. 4½d. per lb. on the spot and 1s. 3½d. c.i.f. for shipment. Java is dull at 1s. 8d. on the spot, and for shipment 1s. 7d. c.i.f. is quoted.

CLOVE.—English distilled is steady on the spot at 5s. 3d. per lb. for 90 to 92 per cent. for manufacturing; druggists' quantities, B.P. oil, are unchanged at 5s. 6d. to 5s. 9d.

COPAIBA is very firm on the spot at 3s. 9d. per lb.

EUCALYPTUS.—A good inquiry for Australian has been made recently. Spot supplies of 70 to 75 cineol are practically cleared, most of the offerings being 80 to 85, for which 2s. 2d. to 2s. 3d. is quoted.

GERANIUM.—Bourbon is cheaper to arrive at 17s. fr. per kilo (= 13s. per lb. approximately) c.i.f. On the spot, holders quote 13s. to 13s. 6d. Algerian is cheaper at 15s. fr., quays, Algiers (= 11s. 9d. per lb. approximately). On the spot, sales would be made at around 12s.

LAVERENDER.—French lavender, 38 to 40 per cent., is firmer at the source, with current quotations at from 260 fr. to 280 fr. per kilo (= 19s. 6d. to 21s. per lb.) as to seller. Spot holders are inclined to harden prices, the general figure being around 19s. per lb.

LEMON.—There appears to be a considerable amount of oil of indifferent quality offering. Prices of good brands vary from 6s. 6d., 6s. 9d., 6s. 10d. to 7s. per lb. c.i.f. to arrive. Spot prices are unchanged at 7s. to 7s. 3d. per lb.

LEMONGRASS.—Cochin is quiet at 3s. 4½d. per lb. c.i.f. On the spot 3s. 5½d. to 3s. 6d. is quoted, which is a shade easier.

NEROLI.—Contrary to expectations, the price for new crop French flowers has been fixed at 9.50 fr. per kilo, which is 1.50 fr. above last year's price.

ORANGE.—Sicilian sweet on the spot is steady at from 9s. 3d. to 9s. 9d. per lb. West Indian is quiet and unchanged at 8s. 6d.

PEPPERMINT.—American natural tin oil is unchanged at 16s. per lb. on the spot. Reports from producing centres of inclement weather have rather strengthened the position, and for June-July shipment 15s. to 15s. 3d. c.i.f. is quoted as to brand. Double-rectified is 18s. HGH is quoted at 22s. 6d. c.i.f. for June-July shipment. Japanese dementholised is 7s. 6d. per lb. on the spot for Kobayashi-Suzuki. Forward positions are nominal, June-July shipment offering at 7s. 9d.; July-August, 7s. 7½d.; buyers, 7s. 6d.; October-December, 7s. 3d.; and January-March (1928) at 7s. c.i.f.; buyers at 6s. 9d.

SPEARMINT.—American is firmer for shipment, in some directions at from 15s. 6d. to 16s. c.i.f. Spot is obtainable at from 16s. 3d. for cases to 16s. 9d. for tins.

WINTERGREEN (SWEET BIRCH).—Genuine American is quoted at 7s. 9d. to 8s. per lb., ex wharf, duty paid.

WORMSEED (CHENOPODIUM).—American has been in active demand and is advancing. Subsequent to the elimination of cheap sellers, much higher prices have been cabled, and

while 14s. 6d. per lb. c.i.f. was still current on Wednesday, in some directions supplies were held for 16s. 3d. c.i.f. Limited quantities were quoted on the spot at from 15s. 3d. to 16s. 3d.

The following arrivals have taken place at London from the countries indicated during the period June 1 to 7 (inclusive): Anise (Ch.), 10 dm., 25 cs.; camphor (Jp.), 25 cs.; cassia (Ch.), 10 cs.; cinnamon (Ger.), 1 cs.; citronella (Jv.) 4 dm., (Cev.) 2 dm., (Fr.) 6 cs., (Holl.) 4 dm.; eucalyptus (Aust.), 6 dm.; geranium (Réun.), 3 dm., 1 tin; guaiacum wood (U.S.), 3 cs.; lavender (Fr.), 4 cs.; lemon (It.) 252 cs., 14 x $\frac{1}{2}$ cs., (Ger.) 4 dm.; lemongrass (Fr.) 1 cs., (Br. Ind.) 6 dm.; lime (B.W.I.) 1 dm., 3 cs., (U.S.) 1 dm., (Br. Guiana), 10 cs.; mandarin (It.) 3 cs.; orange (Fr.) 2 cs.; (B.W.I.) 10 cs., 1 dm., (Sp.) 10 cs., (It.) 36 cs., (U.S.) 1 dm.; palmarosa (Br. Ind.), 2 pots; patchouli (Fr.), 3 cs.; peppermint (U.S.) 23 cs., (Fr.) 3 cs.; rosemary (Sp.) 1 dm.; rosewood (Fr.), 1 dm.; vetiver (Fr.), 1 cs.; wormseed (U.S.) 4 cs., (Switz.) 1 cs.; (It.) 4 x $\frac{1}{2}$ cs., 1 x $\frac{1}{4}$ cs., (Fr.) 4 cs.

Pharmaceutical Chemicals, etc.

CHANGES in this section are very few, unimportant and mostly due to keen competition. Business has been rather better in some lines, while the demand for citric and tartaric acids has fallen off a little, most of the large business for the season having been concluded. Cocaine is 3s. 9d. per oz. lower.

ACETANILIDE continues to be quoted at about 1s. 6d. per lb. for quantities of B.P. crystals and powder; business is limited.

AMIDOPYRIN is steadier, with the bottom price at about 8s. 9d. per lb.; fair business.

ASPIRIN.—Moderate business is reported, with the market showing no change at the quoted rates of 2s. 4d. to 2s. 5½d. per lb., as to grade and quantity.

BARBITONE is quoted at 5s. 10½d. to 5s. 11d. per lb., but about 5s. 9d. per lb. would be accepted for large business.

BENZALDEHYDE is unchanged and quiet, with offers of quantities in carboys at 1s. 11d. per lb.

BENZOIC ACID (B.P.) is firm: British, 2s. 3d. to 2s. 3½d. per lb., ex works; Continental, p.f.f.c., 3s. spot.

BROMIDES continue steady, with about average business: ammonium, 2s. 1½d. to 2s. 1¾d.; potassium, B.P. crystals, 1s. 9½d.; powder, 1s. 9d.; sodium, B.P., 1s. 11d. per lb., in quantities.

CALCIUM LACTATE is fairly steady at about 1s. 2d. per lb. for cwt. lots; prices are very competitive.

CHLORAL HYDRATE.—Duty-paid crystals are moving at about 3s. 1d. per lb., and slightly more is being quoted for imported of best quality.

CITRIC ACID is unchanged. During the past few weeks very satisfactory business has been done and the tone is now quieter: spot, 1s. 6½d. to 1s. 7d. per lb., less 5 per cent. for foreign; Continental offers continue firm from 1s. 7½d. per lb., c.i.f. U.K. port.

COCAINE is cheaper; the pure alkaloid has been reduced by 4s. 1d. to 4s. 3d. per oz., 25-oz. tins offering at 20s. 4d. per oz., 16-oz. at 21s. 3d., and 1-oz. 22s. Hydrochloride is 3s. 9d. cheaper, 25-oz. tins offering at 18s. 6d., 16-oz. at 19s. 4d., and 1-oz. tins at 20s. 4d. per oz.

CREOSOTE.—B.P. shows no change at about 1s. 9d. per lb., in demijohns; market rather slack.

CREOSOTE CARBONATE is quiet, with dealers offering at about 5s. 9d. to 5s. 10d. per lb.

ETHERS.—Makers quote s.g. 0.730 at 1s. 0½d. to 1s. 2½d.; 0.720, technical, 1s. 3½d. to 1s. 5½d.; 0.720, pure (B.P. 1914), 2s. 2d. to 2s. 4d. per lb., according to quantity.

GUAIACOL CARBONATE seems fairly steady at about 5s. to 5s. 3d. per lb.; business has been unimportant.

HEXAMINE continues in fair demand at 2s. 4d. to 2s. 5½d. per lb., according to grade and quantity.

HYDROQUINONE.—Inquiry continues good, with the price for average quantities about 3s. 11d.; large business might be booked down to 3s. 10d. to 3s. 10½d. per lb.

LACTIC ACID (B.P.) is steady at from 2s. 6d. per lb.; a good business is reported in technical 50 per cent. by weight at about £39 per ton.

MENTHOL (SYNTHETIC).—Makers quote from 10s. 6d. to 14s. 6d. per lb., according to quantity.

METHYL SALICYLATE has been slow of sale, but quoted prices are so far maintained at 1s. 6d. to 1s. 7d. per lb., as to quantity.

METHYL SULPHONAL might be shaded at the quoted rate of 10s. 6d. per lb.; market dull.

MILK SUGAR continues to meet with fair inquiry, with dealers quoting quantities of imported at from 58s. per cwt. for B.P. powder.

PARAFORMALDEHYDE (100 per cent. powder) is steady from 1s. 8d. to 1s. 9d. per lb., with occasional business.

PARALDEHYDE remains lifeless at from 1s. 1½d. to 1s. 2½d. per lb., according to quantity and packing.

PHENACETIN is quoted at from 2s. 9d. to 2s. 10d. per lb., but large business might be booked at slightly less.

PHENAZONE continues to be quoted at very cut rates for any good business: large quantities down to 4s. 3d., ordinary lots from 4s. 3½d. per lb.

PHENOLPHTHALEIN is unchanged: half-ton lots, 5s. 11d.; small parcels from 6s. to 6s. 2d. per lb.

POTASSIUM PERMANGANATE (B.P.) is very steady, although still quiet: dealers quote from 6½d. per lb.

POTASSIUM SULPHOGUAIACOLATE is dull: offered at from 5s. to 5s. 4d. per lb.

RESORCIN continues a very competitive market and good-sized quantities at 4s. per lb. would be accepted; ordinary sized lots from 4s. 1d. to 4s. 3d. per lb.

SALICYLIC ACID (B.P.) is unchanged at 1s. 3½d. to 1s. 4d. per lb., as to quantity; market has remained quiet.

SALOL is steady as offered by importers at 2s. 3½d. to 2s. 3¾d. per lb., and 1½d. per lb. more for powder.

SODIUM BENZOATE (B.P.).—A fair business continues, with prices for large quantities down to 1s. 7½d. per lb.; smaller lots from 1s. 8d. to 1s. 8½d.

SODIUM DIETHYLBARBITURATE is dull and easy for quantities at 8s. 10d. to 9s. per lb.

SODIUM SALICYLATE (B.P.) has remained dull but unchanged: crystals from 1s. 9½d.; powder, from 1s. 9d. per lb., in quantities.

SULPHONAL is dull and easy at 7s. per lb.; less for quantities.

TANNIC ACID.—B.P. *leviss* has met with more inquiry, especially for shipment: quoted from 2s. 8d. to 2s. 10d. per lb., as to quantity.

TARTARIC ACID (B.P. *leviss*).—Business has been rather slower, but the market is very steady: spot at 1s. 3½d. to 1s. 4d. per lb., less 5 per cent.; Continental position is also steady and unchanged and fully supports the spot position.

TARTAR EMETIC.—Makers quote from 2s. 1d. to 2s. 3d. per lb., according to quantity.

TERPIN HYDRATE is freely offered, with little interest shown at from 1s. 6d. per lb.

THYMOL.—The market quotation is about 10s. 3d. to 10s. 6d. per lb. Prices seem attractive, but only a small business is being done. Ex ajowan seed cannot be sold much under 11s. 3d. to 11s. 6d. per lb.

VANILLIN (100 per cent. from cloves) has remained dull for some time, with dealers offering from 17s. to 17s. 6d. per lb., as to quantity.

Among the chemicals which have paid Key Industry duty during the period May 30 to June 4 inclusive are the following: Acetyl salicylic acid crystals, £191; powder ditto, £191; aluminium hydroxide, £136; benzyl benzoate, £129; butyl lactate, £176; butyric acid, £117; carbon tetrachloride, £275; hydroquinone, £149; potassium bicarbonate, £102; sulpharsenol, £229; thorium nitrate, £603; underscribed chemicals, £1,880.

Industrial Chemicals, etc.

London, June 15.

A GENERALLY steady and unchanged market is reported from all quarters. Cornish arsenic is in fair demand; cream of tartar is moderately active at steady rates; potash products are unchanged, and sal ammoniac has met with a good demand.

ACETIC ACID shows no change, with the market steady and business about normal: 80 per cent. technical and 80 per cent. pure, £37 per ton, in barrels; glacial, pharmaceutical, 99 to 100 per cent., £66, in glass demijohns; glacial, in barrels, £56 per ton, ex store.

ACETONE is meeting with fair business and is steady: B.G.S., in drums, £58 to £61 per ton, ex store, for one to ten-ton lots.

AMMONIUM CHLORIDE has been more active than usual, and grey galvanising is steady at £22 per ton, in casks, ex store; cheaper for contracts.

ARSENIC.—There has been a fair demand for white Cornish on the basis of £15 10s. per ton f.o.r. mines. High-grade Mexican is still offering at about £16 10s. to £16 15s. c.i.f. Liverpool, but there is no interest shown. Japanese producers are not sellers on this side, their views being considerably above London parity. The American market is reported slow but steady at 3½ cents per lb. delivered.

BLEACHING POWDER is easy at about £8 per ton for 35 to 37 per cent. available chlorine.

COPPER SULPHATE is in demand for export and is fairly steady despite the wide prices quoted, ranging from about £24 10s. to £25 5s. per ton f.o.b. for casks, less 5 per cent.

CREAM OF TARTAR continues to meet with good business, with the bottom price for 99 to 100 per cent. foreign powder about 97s. 6d. per cwt., less 2½ per cent.; smaller lots up to 98s., less usual discount. Continental prices are unchanged.

EPSOM SALT.—Quite good business continues in forward deliveries at low prices: spot parcels of commercial quality,

single bags, are offered at about £4 17s. 6d. to £5 per ton, ex store.

FORMALDEHYDE continues to sell in fair quantities and is steady at £40 per ton for 40 per cent. by volume.

FORMIC ACID is steady and prices are well held at about £45 per ton for 85 per cent., in carboys.

GLAUBER'S SALT shows no change, with spot offering at £3 12s. 6d. per ton for commercial, in single bags; forward prices for quantities at lower rates.

LEAD PRODUCTS have been steady and business quite good: lead acetate, brown, £41; white, £43 per ton, in casks, ex store; red lead, imported, £31 10s., c.i.f. London; white lead, dry, £30 15s.; ground in oil, £32 5s., c.i.f. London.

OXALIC ACID is steady at from 2½d. to 3d. per lb., ex wharf.

POTASH CAUSTIC.—Continental Convention rates for 88 to 92 per cent. solid are unchanged: spot, £30 10s., in drums, 15 tons or more, £28 15s., c.i.f. U.K. port.

POTASSIUM CARBONATE is meeting with a steady but limited demand: 90 to 92 per cent., £26; 96 to 98 per cent., £23 per ton, in casks; cheaper for contracts.

POTASSIUM CHLORATE is still slow and prices vary as to quantity from 2½d. per lb. for quantities to arrive up to 3½d. for small spot lots.

POTASSIUM PERMANGANATE has met with better business and prices are firm at about 5½d. per lb., in drums, ex store.

POTASSIUM PRUSSIAN remains dull but steady at about 7½d. per lb., in casks, ex store.

SODIUM CHLORATE meets with little attention from buyers: quantities to arrive from 2½d.; spot, in small lots, from 3d. per lb.

SODIUM HYPOSULPHITE is meeting with a steady business at unchanged prices: pea crystals, in one-cwt. kegs, at £15 2s. 6d. to £15 5s. per ton, ex wharf; commercial quality, £9 5s. per ton; British makers' price to home consumers on contract, £15 5s. per ton, carriage paid to buyer's station.

SODIUM PRUSSIAN is steady at 7½d. per lb. for yellow, in casks, ex store.

SULPHUR is steady to firm with a fair demand: American or Sicilian crude ranges from £6 5s. to £6 7s. 6d., and Sicilian flowers at £13 7s. 6d. and £10 5s. for roll, all c.i.f. to arrive.

COAL-TAR PRODUCTS, ETC.—Pitch has been active at the end of the season and has advanced. Carbolic acid crystals show further weakness on a slack market. Pyridine is again easier on an idle market. Other products are about level on the week. ANILINE OIL continues steady at from 7d. per lb., in loaned drums, carriage paid. ANILINE SALT is quoted at about 7d. per lb., packages extra, carriage paid; market steady. BETANAPHTHOL meets with a continued demand at unchanged prices of 1s. to 1s. 0½d. per lb., carriage paid. TELUOL is steady: commercial 90's, 1s. 4½d. in North, and 1s. 6d. in London and South. XYLOL is still slow of sale: commercial, about 2s.; pure, about 2s. 5d. per gallon, ex works. CARBOLIC ACID CRYSTALS shows further weakness, with the market quotation down to about 8½d. per lb., f.o.b., in drums, with over-casks; the market closes unsteady and dull. Crude 60's is 2s. 4d. per gallon. CRESYLIC ACID is fully maintained on an active market at 2s. 4½d. per gallon for 97 to 99 per cent. American specification, drums extra. NAPHTHALENE is steady but rather quiet; imported flakes and balls, £15 15s. per ton, in cases, ex wharf. Pure METHYL ALCOHOL shows no change, with small lots at £46 per ton in drums, ex wharf; lower prices for quantities. PYRIDINE is still neglected, and offers are now down to 7s. per gallon, f.o.b. PITCH has experienced quite a short burst of business at the end of the season and prices have advanced to as high as 82s. 6d. per ton, f.o.b. East Coast. The business done is unusual for the time of year.

Fixed Oils, etc.

DULL markets are reported in nearly every product in this section, and a number of items are slightly lower. Palm oils continue to weaken. Turpentine has reached very cheap rates. ACID OILS are dull and easier: coconut and/or palm kernel, 33s.; groundnut, 30s.; soya, 28s. spot. CASTOR.—English is lower, closing dull and unsteady: pharmaceutical, 51s. 6d.; first pressings, 46s. 6d.; second pressings, 43s. 6d. per cwt., in barrels, on the spot, in not less than one-ton lots. COCONUT is quiet and prices are about level on the week: deodorised, spot 47s. 6d.; Ceylon 40s. 6d. c.i.f.; Cochiti, 44s. 6d. c.i.f.; COTTON is dull but fairly steady: deodorised, 47s.; common edible, 45s.; soap-making, 42s.; crude, 39s. per cwt., spot. GROUNDNUT remains dull and unchanged: deodorised, spot 52s.; crude Oriental, 45s. c.i.f. PALM KERNEL remains slow: deodorised, 50s.; crude, 41s. 6d. spot. PALM continues to weaken and is still far from active, closing irregular: Lagos, 31s. 1½d.; softs, 30s. 3d.; mediums, 30s. 7½d.; hards, 32s. 9d.; bleached 33s. 6d. spot. RAPE is quiet and unchanged: refined, 49s.; crude, 47s., spot. SOYA continues dull and unchanged: deodorised, 42s.; crude, 38s., spot. LINSEED (raw, naked) for all positions is slightly lower and quieter: on spot,

33s. 6d.; June, 32s. 6d.; July-August, 33s. 7½d.; September-December, 33s. 1½d. Hull, on spot, 33s. 9d.; June-August, 33s. 9d.; September-December, 33s. 7½d.; boiled oil, spot, 38s. 3d. TURPENTINE.—There has been renewed sagging, in line with American quotations, and demand is very slow. The market is dominated by the continued heavy crop movement in America. London deliveries last week were only 1,863 barrels, having been affected by the holidays, and the total since January 1 is 62,510 barrels, compared with 64,407 barrels the same period last year. Total stocks were 18,563 barrels, which, with 1,400 barrels afloat, makes the total London visible supply 19,963 barrels, against 18,411 barrels last year. Spot closed easy on Wednesday evening at 42s. per cwt.; July-December, 44s. RESIN prices fell to new low records, but demand was fair, although chiefly for prompt delivery. C.i.f. terms for American were as follows: B/E 20s. 4½d., F/I 20s. 7½d., K/M 20s. 9d., W.G., 23s. 10½d., and W.W. 25s. 10½d. Stocks here are still limited and held for full premiums. WOOD.—Hankow, in barrels, on spot is dull and easier at 92s. 6d. per cwt. OLIVE is 8s. 9d. per gallon for French B.P., edible 10s., Italian edible 10s. 6d. per gallon in barrels.

LUBRICATING MINERAL AND BURNING OILS.—Most items have remained dull, but there has been a good demand for solvent naphtha at steady prices. Lubricating oils are unchanged on a quiet spot market. BENZOL.—Standard motor, 1s. 6d. per gallon, ex works, in tank wagons; the market is unsteady and easy at this figure: pure, 1s. 11½d.; crude, 1s. 1½d. FUEL OIL remains quiet and unchanged: 950 gravity, £4 5s.; 890 gravity, £4 15s. per ton, ex tank. PARAFFIN WAX and SCALE are quiet and unsteady: wax, 2½d. to 4½d. per lb., according to melting point, in bags; scale is offered for shipment at about £15 10s. per ton, c.i.f. U.K. port. PARAFFIN OILS are steady: American standard white, 1s.; water-white, 1s. 1d. per gallon, barrels free; Russian prime white kerosene, 6½d. to 7d., ex tank, 7½d. buyer's barrels filled free, and 11d. per gallon, barrels free, ex wharf, London. WHITE OILS continue dull but steady: special No. 1, £24 15s.; No. 1, £23 15s.; No. 3 half-white, £21 7s. 6d.; No. 4 half-white, £16 5s. per ton, drums and barrels free, ex wharf, London. SOLVENT NAPHTHAS.—More business has been done in 90 to 160's at about 1s. 1½d. to 1s. 2d. per gallon, naked at works; heavy 90 to 190 is dull, quoted at about 1s. LUBRICATING OILS.—There is no special feature and spot prices are unchanged: pales, £10 to £23; reeds, £12 7s. 6d. to £22 10s.; dark cylinders, £12 10s. to £29; filtered cylinders, £20 to £33 per ton, less 2½ per cent., ex wharf, London; lower prices for large quantities.

Safeguarding Key Industries

THE Board of Trade give notice that representations have been made to them under Section 10 (5) of the Finance Act, 1926, for the exemption from duty of ethylene bromide, lead tetra-ethyl, monochlor-naphthalene, and R. potassium hydroxide.

Imported Honey

AN application for an Order in Council under the Merchandise Marks Act, 1926, to require the marking of imported honey has been referred for inquiry to the Standing Committee set up under the Act by the Minister of Agriculture and Fisheries, the Secretary of State for the Home Department and the Secretary of State for Scotland, acting jointly. The inquiry will not commence before July 11, 1927. Any communication with regard to the matter should be addressed to Mr. H. J. Johns, the secretary of the committee, 10 Whitehall Place, London, S.W.1.

Brazilian Ipecacuanha

IN 1924 exports of medicinal plants and resins from Brazil represented a value of 2,264 contos, among which ipecacuanha alone figured with 2,089 contos. In 1925 exports of this class of goods showed a decline in volume as well as in value, falling from 208 tons in 1924 to 171 tons, valued at 1,756 contos, in 1925, ipecacuanha again occupying the first place with 60 tons, valued at 1,546 contos. These figures, as is pointed out by the Minister of Agriculture, compare unfavourably with those of previous years, and show that the natural wealth of Brazil in medicinal plants is not being adequately exploited, since in 1922 these exports totalled 51½ tons. Over half of the total export of ipecacuanha from Brazil is sent via Uruguay, in transshipment to Europe and the United States, as is apparent from the following table, which gives the figures for 1925:—

	Kilos	Milreis
Uruguay	24,455	632 : 984 \$ 000
Germany	12,960	298 : 260 \$ 000
France	9,420	243 : 680 \$ 000
Great Britain ..	9,106	239 : 665 \$ 000
United States ..	4,174	131 : 950 \$ 000



Letters for this section should be written on one side of the paper only. Correspondents may adopt an assumed name for purposes of publication, but must in all cases furnish their real name and address to the Editor.

Insurance Dispensing Terms

SIR,—I hope the R.P.U. will sail right in and tackle the job. Their safeguards are all right if carried out properly. They will then confer as great a benefit on the drug trade as Sir William Glyn-Jones did thirty years ago with the P.A.T.A. But we must have the conditions entirely altered as regards traps—(1) bottle sizes; (2) plaster backings; (3) apothecaries' weights; (4) arsenic in the glass; (5) tricky solubilities. Otherwise our troubles will continue, even if we get paid in full. We should be treated like men in business, not convicts or defaulters: (a) Reasonable letters should be written to us when the tricky points of a tricky trade are about; (b) local needs settled locally between doctors, chemists and patients; (c) if chemist succeeds in pleasing patients and doctors, leave him alone—cut out checking unless complaints received; (d) if he fails to please them it is easy to control without the penal fuss and savage fines we have had in the last two or three years. The number of insured persons is over 16,000,000. At 3s. per head this means £2,250,000 yearly. The Government added £2,000,000, making it £4,250,000. The 1s. 6d. in 1913 would have been quite sufficient if stock mixtures had been adopted from the start by all (as they were later on). We have now to work on a total of £2,250,000, and we can do it and be as solvent as Surrey if my list and the R.P.U. safeguards are carried out. Incidentally, Surrey will not lose anything: we have to manage our panel as economically as they do theirs, with perhaps an extra grant for the out-of-works. Only 10 per cent. of insured persons go near the doctor as a regular habit; the 90 per cent. we rarely see. "Punch" said it was a variant to the pictures. The first Committee (about 1915-16) on "excessive prescribing" found that the Englishman in certain areas always wanted a doctor's bottle in the house: Aberdeen, which is not in England, topped the list. Here it runs in families: they get over 30s. worth per head per annum of dope. But the R.P.U. can tackle that lot easily. They are less than 5 per cent. Surrey hasn't any. I suggest we export the lot to Surrey and see what happens. Sympathy with "out-of-works" is quite all right, but there is no reason why we should give them mixtures strong enough for a cow simply because they are out of work... and we can give the working man's wife a bandage wrapped sufficiently to keep it clean: we have to seal his bandage. We can give his wife an excellent mixture of bismuth 60 grains; we give him 160, 240, or 320. If we give up the dispensing (1) the doctors, (2) the companies, (3) the "Co-ops." will take it on, and the "Co-ops." have 7,000 patent medicine licences... They would cut out (1) C.L. books, (2) B.P.C., (3) status, and (4) traps. They would be able to dictate certain conditions; their factories would supply the mixtures instead of the drug wholesalers—and they would make it pay. And so shall I—on the same terms. And so can all of us.

Yours, etc.,

JAY MACK (15/6).

SIR,—It is suggested that the Pharmaceutical Committees' representatives had no alternative but to accept the second of the Ministry of Health's propositions, that is, to take over the administration of the drug fund (*C. & D.*, June 11, p. 719). But surely they had the option of saying that as both the schemes were practically certain to involve the chemists in financial loss, they could accept neither of them. Some people would raise the objection that such a course might mean losing the dispensing for insured persons; but which is worse, to lose the contract or to lose money in carrying it out? If the chemist refused to take on an unprofitable job, let us consider the alternatives which have been suggested: there are three—the company concerns, the doctors, and State dispensaries. To take them in order:

if the drug fund is not sufficient to pay the retail chemist, it is certain that it will not pay a company if worked on the same tariff, and, moreover, I cannot see any company relishing the idea of its branches being packed to the doors with panel customers during the evening hours to the detriment of its counter trade, as they would be if there were no other chemists available. Then the doctors: the majority of them do not waste much time over panel patients now, so they are not likely to be enthusiastic over the idea of having more work to do for them, unless they got back to the old style of club practice with about two stock mixtures for the lot—and as this would be subversive of the fundamental idea of the Insurance Act, the societies would have a lot to say if they thought their members were not getting full benefits. And lastly the State dispensary: the initial expense would be enormous, and if money is as tight as is made out where would the capital expenditure come from? No; the probability is that, faced with the necessity of making the drug fund solvent, the Government would find a means of doing so: the money has been found for additional benefits, such as the dental benefit, and it is only where the chemist is concerned that the line is drawn at a certain amount which has to be sufficient. I presume that the finding of the representatives will still have to come back to the individual areas for discussion and acceptance, and if the chemists do accept they will do so with the moral certainty of being faced with a deficit on the first year's working, and in October 1928 of having to start the argument all over again. Will it be too much to ask the R.P.U., seeing that they will have the administration of the fund, to have prepared by that time detailed and authorised statistics showing that the work is not being done on a remunerative basis, apart from any discounting which may be incurred?—Yours truly,

NOT HOPEFUL (14/6).

SIR,—To be "bright, brief and brotherly," what is wanted in pharmacy to-day is pluck. Plenty of pluck would do far more towards getting us justice and a decent day's pay for what is usually a hard day's work than all the parliamentary representation we are likely to get by the time some of us have been liquidated by the N.H.I. We are told that there is 13s. per head in the medical fund, of which 2s. 10d. only is available for all the goods supplied and services in connection therewith. If the economy axe is to be applied, my advice would be, commence at the medical end, where nothing is paid out for goods by the servants.

Yours faithfully,

Liverpool.

H. E. HARRIMAN.

SIR,—Surely "Discounted" is right—that most delegates were representative of meetings which had definitely decided against discounting or any cut in remuneration, and to press for more adequate payment; otherwise, as a body, to decline further service. Why this "volte face," by delegates? Were "bogies" once again trotted out, which really are non-existent, or at worst our own shadows (doubt of our fellow-pharmacists)? The proposed remedy is a profound if ancient one—the ass cannot carry our burden, therefore we must carry the ass! Truly a "via asinorum." Countries (and trades) receive the Government—and treatment—they merit. Is it too late to develop a little backbone?

Yours faithfully,

G. L. (15/6).

Business Tenants' Charter

SIR,—Your correspondent "Leasout" (*C. & D.*, May 28, p. 664) suggests that a leaseholder of business premises having the right of renewal at a reasonable rent is virtually a lessee for life. If the premises are let to a limited company the tenure is practically freehold; at any rate, it gives all the advantages of a perpetual freehold. In one way this is a correct summing up of the position. The Landlord and Tenant (No. 1) Bill (not the Government measure) meets this difficulty by giving power to the leasehold tribunal to decide (a) to extend the tenancy; or (b) to order a sale by the landlord to the tenant, or by the tenant to the landlord, of their respective interests in the property, in each case on such terms as are equitable, both financial and otherwise. The tribunal is to be the one already constituted under

the Acquisition of Land (Assessment of Compensation) Act, 1919. Under the Bill referred to this tribunal would have power to determine all disputes between landlord and tenant, as well as the powers above mentioned. The other point to which "Leasout" refers is how far the Government's Bill deals with leasehold premises comprising both house and shop. The Bill specifically deals with this point in section 12, subsection (3), as follows: "In the case of premises used partly for purposes of a trade or business, and partly for other purposes, this part (the compensation part) of this Act shall apply to improvements only if and so far as they are improvements in relation to the trade or business." As I read the Bill, chemists who reside on their premises, if leasehold with a tenancy of a year or more, are entitled, if the lease is not renewed, to compensation only for any improvements created by them to the business part of the premises after September 30, 1927, apart from their covenants and with the permission of the landlord or the tribunal, but not for lost goodwill, nor for any depreciation of stock or fixtures, nor for removal expenses. The more I examine the Bill the less do I think it is a "Business Tenants' Charter." So far as "Exit" (*C. & D.*, May 28, p. 665) is concerned, he is in a parlous plight, and unless he can stay in his present premises long enough for the Act to come into force he appears to have no redress. The Bill, even if it does become an Act, would help him but little in its present form.—Yours faithfully,
JUSTIN LINCOLN (1/6).

SIR,—While one is extremely sorry for the predicament in which "Exit" (*C. & D.*, May 28, p. 665) finds himself, one cannot help thinking that he was asking for trouble by opening a new business on a yearly lease; apart from the risk he ran (and is now faced with) of receiving six months' notice at any time, he was from the outset limiting his goodwill to that extent. For even if he had remained established long enough to get his business going, if for any cause he had desired to sell he would have been unable to get a reasonable offer on account of the lack of lease. But to some extent the man who is faced with the expiration of a longer lease is in a worse position, for he is threatened with the loss of the labour of years, and he is compelled, probably in middle age, to start again from the beginning and to go once more through the spade work which he could have very well expected to have put behind him.

Yours truly,

RENEWAL (1/6).

Chemists versus Hucksters

SIR,—One of the most urgent problems in the business life of to-day is the "huckster" shop, which to a large extent poaches on the preserves of the more orthodox retailer. These shops sell any and every thing at any and every time, and many of them are run by trade unionists as a side-line. Many retail chemists throughout the country are blossoming out into self-styled wholesalers. They sell to the hucksters these goods on which we have depended as our most profitable lines. . . . There are too many pharmacists to-day, and pharmacies are being opened in already hopelessly over-exploited areas. Add to this the merciless competition of hordes of small shops, the increasing tendency of drapers, grocers, hairdressers, etc., to sell "chemists'" lines, and the increasing competition of the multiple and departmental stores, and the future does not look too rosy. The Retail Pharmacists' Union can move at once, so far as regards alcoholic tinctures and preparations which chemists alone have the right to sell, and also P.J.F. goods. They could commence propaganda work throughout the country, warning the public against buying medicines from any but those trained and qualified to supply them. The R.P.U. will move in the matter if their hands are forced—and not till then. Are there sufficient far-sighted pharmacists who can appreciate the meaning of scores of thousands of small shops throughout the country, all selling our best-paying lines, to exert sufficient pressure to force their hands? . . . A rigid application of the powers we now possess or can invoke and propaganda work would do much to help us until such time as some form of control of the sale of medicinal preparations is made effective.—Yours faithfully,

RETAILER (31/5).

Legal Queries

Essex (8/6).—We think that the indirect method you suggest of using the word "chemist" on the retail shop of an unqualified person would be held to be contrary to the Pharmacy Act.

R. B. H. (10/6).—Three months before their manager was due to leave for his holiday the firm by which he was employed engaged a *locum tenens* to act as manager during his absence. A month later the manager gave the firm a month's notice terminating his engagement. Is the manager liable to pay any part of the salary of the *locum tenens*? [In our opinion the manager cannot be made to pay any part of the salary of the *locum tenens*. It depends upon the circumstances whether the manager is bound to give a longer period of notice than one month.]

I. A. (13/6) has been the tenant of the premises at which he has been carrying on business. He has always paid the rent to an agent appointed by the landlords and has paid the fire insurance premiums to the same agent, who represents the company with which the premises are insured. "I. A." has recently sold the business, and the agent demands a "transfer fee" of ten guineas, although all he has had to do with the sale is to apportion the rent, rates, etc., on completion. Must "I. A." pay this charge? ["I. A." is not bound to pay the agent anything unless he either introduced the purchaser or acted for "I. A." in connection with the transfer of the business. If the agent did render any services to "I. A." upon his instructions, express or implied, it will depend upon the circumstances how much "I. A." can reasonably be called upon to pay.]

Nemo (7/6) bought a house two years ago that was, and still is, in the occupation of a tenant. The rent has not been increased by the full 40 per cent. allowed by the Increase of Rent Acts. Is it permissible to raise the rent to that extent? When he bought the property "Nemo" was told by the solicitor and the estate agent that the tenancy was a quarterly one; but the tenant maintains that it is a yearly tenancy. What length of notice must be given before any increase of rent can take effect? [If "Nemo" is responsible for the whole of the repairs he is entitled to increase the rent up to an amount not more than 40 per cent. in excess of the pre-war rent. If he pays the rates he may also make a further increase to cover the amount by which they have advanced since August 1914. Notice of the increase of rent must be given to the tenant in the prescribed form, and before the increase can become operative the tenancy must be terminated by the requisite notice. We cannot say whether the tenancy is a quarterly one or a yearly one; but if the former, a quarter's notice will suffice; if the latter, six months' notice expiring on an anniversary of the commencement of the tenancy must be given.]

S. S. (11/6)—(a) A limited company are thinking of buying the lease of the premises in part of which they carry on business. The remainder of the premises is occupied by weekly tenants. If the company buy the lease will they be able to get rid of the other tenants, as they want more accommodation themselves? (b) If one of the directors of the company buys an adjoining dwelling-house in which he would like to reside himself will he be able to evict the present tenants, to whom various parts of the house have been let unfurnished? (c) Part of the house may be pulled down for the purpose of street widening. What compensation would be paid to the leaseholder? (d) Is it necessary to get the permission of the Council before putting in a new shop front? [(a) If the premises are used for business purposes only the tenants can be evicted after being given the notice to which they are entitled. If any of the tenants resides on the premises, possession will not be given by the Court unless alternative accommodation is available for him. (b) It is unlikely that the Court would require the tenant to vacate the premises unless equally suitable accommodation is available for him elsewhere. (c) The measure of the compensation would be the extent of the loss suffered by the leaseholder as the direct result of the alteration. (d) It is probable that the Council's sanction must be obtained; but this depends upon the local by-laws.]

Miscellaneous Inquiries

When samples are sent particulars should be supplied to us as to their origin, what they are, what they are used for and how. We do not undertake to analyse and report upon proprietary articles nor to publish supposed formulas for them.

S. G. (11/5).—GLAZING PRINTS.—Your difficulty in removing the prints is probably due to the gelatin having become too soft, owing to prolonged washing. After the final washing, either the prints should be dried and then immersed in water for a moment prior to placing on the ferrotype plate, or they should be hardened by use of one of the following baths :—

I		II	
Alum ...	2 oz.	Formalin (40%) ...	1 oz.
Water ...	20 oz.	Water ...	20 oz.

The prints should be immersed for ten minutes and washed for about the same period. A reasonable amount of heat may be used to expedite drying, but no attempt should be made to remove them from the ferrotype until they are perfectly dry, when, if they do not peel off, the edge of a penknife may be inserted at the corner and each print removed. The plates may be used over and over again, provided they are cleaned before use by applying with a soft cloth a little of a solution prepared by dissolving white wax 4 gr. in benzene 16 oz. and polishing with a clean soft cloth.

J. F. (19/5).—LIQUID DOG SOAP.—See *C. & D.* Price List Formulary, p. 23. It is advisable to avoid the use of carbolie and its homologues in preparations intended for use on dogs, as these animals are particularly sensitive to phenols.

P. M. B. (20/5).—SYR. FICI Co.—

Ext. sennæ leg. liq. ...	3ivss.
Liq. rhei pro syr. (1-7) ...	3ivss.
Ol. coriand. ...	℥vj.
Sacch. ust. ...	3iv.
Ac. borici ...	3ivss.
Aq. chlorof. ...	3vj.
Syr. fici. ...	ad Oiss.

Syr. Fici is made by boiling 2 oz. of chopped-up figs in a pint of water until the water is reduced to nearly one-half. Then strain off 10 oz., and in it dissolve 1 lb. of sugar.

J. D. (20/5).—UNNA'S ZINC GELATIN PASTE.—The non-drying variety of this, such as is employed in the bandage you send, is made by modifying the formula by incorporating a large proportion of glycerin. Taking the normal formula as gelatin 4, water 16, zinc oxide 6, glycerin 12, replace 6 parts of water by glycerin.

H. W. H. (22/5).—On the details you give we cannot advise you definitely about the liability of your remedy to medicine-stamp duty. If the article is recommended as a cure or preventive of any ailment, or if any proprietary rights are claimed for it, it will be liable to duty.

L. K. (23/5).—BUN SPICE.—We have not a formula for liquid bun spice in which essential oils are employed. The following recipe from "Pharmaceutical Formulas" would, however, be a good basis upon which to devise one :—

Pulv. pimentæ ...	3ij.
Pulv. cassiæ ...	3i.
Pulv. caryophyll. ...	3ss.
Pulv. zingiberis ...	3ss.
Spt. rectificat. ...	3xiv.
Aq. ...	3vj.

Make a pint of tincture by percolation, and in the percolate dissolve

Ol. pimentæ ...	3ss.
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A teaspoonful to a pound of flour.

J. E. C. (25/5).—ASTRINGENT POWDER FOR DIARRHŒA IN CATTLE.

Prepared chalk ...	2 oz.
Oak bark ...	1 oz.
Catechu ...	2 oz.
Ginger ...	1 oz.
Chloral hydrate ...	4 oz.

Mix : For administration add warm gruel 2 pints.

W. O. (26/5).—(1) Easton's syrup should not have a precipitate, but if through exposure to cold this happens, gentle warmth will restore it. (2) Tragacanth mucilage is the most suitable suspensory agent for aspirin mixture.

G. F. S. (26/5).—PEACH-LEAF CURL.—There is no remedy for peach-leaf curl when it has appeared. The preventive measures which are employed early in the season before the leaves appear are spraying with Bordeaux mixture, or, to early foliage, potassium sulphide solution ($\frac{1}{2}$ oz. to 1 gall.). Both these can be supplied in powder form; it is probably Bordeaux mixture powder that your customer has in view.

C. F. S. (27/5).—CHEMICAL WEATHER-GLASS.—The following is the method from "Pharmaceutical Formulas" of preparing the chemical barometer :—

Camphor ...	3ss.
Ammonium chloride ...	3ss.
Potassium nitrate ...	3ss.
Rectified spirit, 64 o.p. ...	3i.
Distilled water ...	3ij.

Weigh the spirit into the bottle and dissolve in it the camphor, then add the salts and the water (warm). Shake, and when dissolved filter. Long, narrow tubes of glass are filled with this solution and hermetically sealed or corked. The tubes are then affixed to boards by means of wires in the same way as barometers are fixed.

D. J. O. (28/5).—Zinc vessels should not be used for the storing of water in the manufacture of aerated water. Slate, porcelain, enamelled iron or wooden vessels should be employed.

R. & S. (30/5).—HAIR-SETTING LOTIONS.—See *C. & D.*, II, 1926, p. 396.

R. W. (30/5).—ABERNETHY'S PILLS (pil. coloc. et hydrarg.) consist of pil. hydrargyri gr. iij., ext. coloc. co. gr. ij., in each. Pil. coloc. et hydrarg. co. contains pil. coloc. co. gr. ss., pil. hydrarg. gr. $\frac{1}{4}$, ext. hyoscy. gr. $\frac{1}{4}$. The ext. hyoscy. is used to counteract any tendency to griping. The former is the correct recipe for Abernethy's pills.

A. M. (30/5).—TOBACCO SMOKING HABIT.—We are not acquainted with the composition of any proprietary articles sold for the "cure" of the tobacco smoking habit. For the purpose are used various bitters (gentian, cascarilla, chiretta or quassia) in liquid, powdered or troch form, and sometimes a little capsicum is incorporated. The effectiveness of the articles is somewhat doubtful.

Retrospect of Fifty Years Ago

Reprinted from

"The Chemist and Druggist," June 15, 1877.

Poisoned Arrows

Lovers of the weird and ghastly will be satisfied by the perusal of the account of the poisoned arrow manufacture as carried on by the Samoan islanders, and related to the Fellows of the Linnean Society by the Rev. Thomas Powell. These children of nature show a pertinacity in inventive evilness which seems almost incredible. An old chief of Efat (one of the Sandwich Islands) thus reveals the mystery of the poison craft to his son Pomare. The initiated, distinguished by wearing the os femoris of a pig inserted between the arm and armlet, watch for the death of a sufferer laid low by any acute disease which may be accompanied by delirium. They note the place of his burial, and six months afterwards open his grave by stealth. From thence they carry the large bones of both extremities and the parietal bones of the skull. Of these, by sundry sawing, polishing and scraping, they make the points of spears and arrows. For a saw they use the spines of the large Echinus, of which they need a goodly quantity, as the edge is soon worn out. Three plants are pressed into service for the poison—the Toto, the Putu and the Fanuamamala. The most virulent is the Toto, a large tree. When cut, a white milk exudes which causes blindness: its sap introduced into the circulation causes death.



[Commenced C. & D., July 5, 1924]

Kauri Gum.—The New Zealand and New Caledonia resins, classed among the copals, is the kauri gum of commerce. Strictly speaking, it is not a gum, but is one of the varnish resins usually known in the trade as "varnish gums." It is a fossil resin derived from the kauri pine, *Dammara Australis*. It is an esteemed variety of copal, usually valued at about the same rate as East African copal. New Zealand exports from £500,000 to £600,000 worth per annum, but the industry is now slowly decaying. Before the war the European, and to a lesser extent the American, markets provided a steady demand at satisfactory prices. Later, new avenues of disposal had to be found, but competition began to tell its tale, and the New Zealand Government was compelled to step in, so that the industry might be kept going. But it is in a parlous condition now, and the gum diggers are in a serious plight. The gum consists of a mixture of acid and ester resins, its acid value being from 65 to 85, and its ester value from 30 to 40. Its iodine value is very variable, and lies between 75 and 170. The following table shows the imports and re-exports into and from the United Kingdom during the years 1921 to 1925:—

Imports

From	1921	1922	1923	1924	1925
	cwt.	cwt.	cwt.	cwt.	cwt.
Total from foreign countries ..	327	135	487	1,275	393
Value .. £	1,612	862	1,697	4,767	925
New Zealand ..	38,456	39,031	50,247	45,867	52,522
Other British countries ..	—	1,367	539	373	332
Total from British countries ..	38,456	40,398	50,786	46,240	52,854
Value .. £	156,834	170,687	205,112	196,412	278,087
Total ..	38,783	40,533	51,273	47,515	53,247
Value .. £	158,446	171,549	216,809	201,179	279,012

Re-exports

To	1921	1922	1923	1924	1925
	cwt.	cwt.	cwt.	cwt.	cwt.
Russia ..	—	50	127	618	865
Sweden ..	232	870	1,473	1,138	837
Germany ..	1,525	4,613	1,953	5,168	5,245
Netherlands ..	1,627	2,882	2,294	4,435	1,080
France ..	968	1,706	1,386	1,746	1,750
United States ..	403	2,671	797	70	33
Other foreign countries ..	718	1,845	2,816	996	2,283
Total to foreign countries ..	5,473	14,637	10,846	14,171	12,093
Value .. £	37,065	75,122	46,844	63,998	69,049
Total to British countries ..	43	133	148	—	2
Value .. £	626	1,727	1,293	—	11
Total ..	5,516	14,770	10,994	14,171	12,095
Value .. £	37,691	76,849	48,137	63,998	69,060

The following figures show the imports into United States:—1925, 4,654,495 lb. (value \$813,234); 1926, 5,455,974 lb. (value \$951,982). Specific figures for kauri are not available for other countries, they being included with gums, exotic resins, etc.

Kaolin is allied to white clays suitable for the manufacture of porcelain. It consists of hydrated aluminium silicate formed by the weathering of granite. Kaolin of commerce is prepared by washing it away

from the heavier particles of quartz and dross. Kaolin approximates in composition to the crystalline mineral kaolinite ($H_2Al_2Si_2O_6$), but it rarely contains the six-sided scales of this substance.

Kava-Kava is the rhizome of *Piper methysticum*, N.O. *Piperaceæ*, indigenous to Fiji and the Sandwich Islands. It was formerly employed in medicine as an antiseptic and diuretic. The rhizome occurs in peeled, dried, whitish to greyish-brown irregular cubes or wedges. An extract is official in the 1914 B.P. It contains two resins, methysticin and *psi*-methysticin, which are probably the most important constituents, yanguonin and two glucosides. An alkaloid, kavanine, is also said to be present. The Fijians obtain a native beverage, "kava" or "yaguona," from the rhizome, which has intoxicating properties. To prepare this, the rhizome is first masticated until it is reduced to fine particles, which are put into a large bowl and mixed with water. At public assemblies, when the water is poured on the prepared kava-kava, the people chant songs and beat with little sticks on a bamboo or log of wood until the beverage is ready to be strained. Then the priest or headman pronounces a prayer or toast, and the most important guest is handed a coconut shell or a bowl called a "tanoa" from which to have the first drink. Kava has the appearance of café-au-lait, and has an aromatic slightly pungent taste. Fijians offer the rhizomes to strangers as tokens of good-will.

Kedah.—The Deleterious Drugs Enactment, No. 2, of 1338 (1929), amended in 1345 (1926), stipulates that no person may sell, have in his possession, import into or export from Kedah any deleterious drug specified in Schedule II, or syringe for hypodermic injection, including hypodermic needles, except in accordance with the terms of a written permit issued by the State Surgeon. Further, no person shall sell any poison specified in Schedule I without a licence. The State Surgeon may in his discretion issue licences to: medical practitioners, veterinary surgeons, chemists, dentists, and to wholesalers and retailers to deal generally in poisons or to sell specified poisons. Schedule I contains a list of 18 poisons, including their preparations, while Schedule II includes morphine, cocaine, eucaine, ecgonine, heroin, opium, and their preparations. Spirits of wine and medicinal spirits imported by the Kedah Medical Department, as well as British pharmacopœial preparations containing over 2 per cent, of alcohol by weight, other than medicated wines, are admitted free of duty.

Kelp, or dried seaweed, was the original source of iodine, but it is now a dead industry owing to the cheapness of Chilean iodine. Many attempts have been made to make kelp-burning successful by finding a use for by-products from destructive distillation in retorts, but the cost of collection, drying and fuel for pyrogenesis has prevented the attainment of economic success.

Kenya.—The Drugs and Poisons Ordinance includes medicines, compound medicines, and medicinal preparations under the term "drugs," and stipulates that it shall be unlawful for any person to act or carry on the business of a druggist, or to mix, compound, prepare, sell, retail or dispense any drug or poison in Kenya, unless he is registered under this Ordinance, and has obtained a licence from the Principal Medical Officer. A company may carry on the business of a druggist provided: (1) It is duly registered in the Colony; (2) the managing director is a registered and licensed druggist; (3) the person managing the shop or premises is also duly registered and licensed and his name is conspicuously posted in the shop. Any offence under this Ordinance, if committed by an individual, will be regarded as an offence committed by every director of the company. The examining Board shall consist of the Principal Medical Officer and either a qualified medical practitioner or a licensed druggist and such other persons as the Governor may appoint. The Principal Medical Officer is the Registrar of Licences. A licence to act as a druggist is granted if the applicant satisfies the Board that he fulfils one of the following conditions: (1) Is a duly qualified chemist and druggist in Great Britain or Ireland, or holds a certificate or diploma of competency



The C.&D. Commercial Compendium



as a chemist or druggist from any college, society, council or board recognised by the Board under rules made by the Governor; (2) produces a certificate that he has been employed in the compounding and dispensing of prescriptions in a Government hospital in the Colony, or in any other British possession, etc., for four years, passes an examination before the Board and obtains a certificate from the latter; (3) produces a certificate that he has been employed in the compounding and dispensing of prescriptions or as assistant to a duly qualified medical practitioner, apothecary or chemist or druggist for a period of four years, passes an examination before the Board, and obtains a certificate from the latter. Two poison schedules are appended to this Ordinance. The provisions of this Ordinance do not extend, *inter alia*, to any patent, proprietary, or homœopathic medicine, provided it is sold in the container and in the same wrapper or cover in which it was imported into the Colony, and that it is properly secured and bears the seal, name, trade-mark (if any) and address of the proprietor or manufacturer, and that directions for use are supplied with each package. Every patent, proprietary or homœopathic medicine intended for human use and containing a poison shall bear upon the bottle, case or other package immediately containing the medicine a true and exact statement setting forth the fact that poison is contained, as well as the ordinary name of the poison; the penalty for non-observance of this provision is £75. The importation, manufacture and sale of narcotics is regulated by the Abuse of Opiates Prevention Ordinance, the licensing authority being the Principal Medical Officer. The following rates of duty are levied (the amounts are given in shillings and cents): Perfumed spirits, 60.00 per Imperial gallon; toilet preparations, essences, syrups, and tinctures, containing over 3 per cent. of proof spirit, 40.00 per Imperial gallon. An *ad valorem* duty of 30 per cent. is levied on the following goods: Proprietary medicines; essential and perfumed oils; perfumery, cosmetics, dyes, powders, and other preparations for toilet use. Disinfectants, drugs, dressings, medicines, and antiseptics, imported for *bona fide* medicinal purposes, are admitted free of duty.

Kermes is an animal dyestuff, comparable to cochineal, the female insects affixed to the twigs of the oak *Quercus coccifera*, Linn., being collected and killed by vinegar vapour. It consists of pale reddish-brown grains of about one-tenth the tinctorial power of cochineal. This scarlet dye is the most ancient known, antedating Moses and being the "coccus" of the early Greek philosophers.

Kermes Mineral is a variable oxysulphide of antimony deposited as a reddish-brown powder from the solution obtained by boiling antimony sulphide with caustic alkali.

Kermesite, or red antimony, is natural oxysulphide of antimony, occurring along with grey antimony sulphide.

Keying Advertisements: Methods.—It is important that the man responsible for buying space for the manufacturing house or retail shop, in newspapers, magazines, trade journals and other media, shall have some method of testing results, and of ascertaining whether the advertisements pay. The best method of doing this is by keying the advertisement. A frequent system employed by business houses is to have a different form of address in each medium. In some cases, for example, prospective customers are requested to address their inquiries to "Department No. —," the number used indicating to advertisers the medium which has produced the inquiry or order. Another, and generally more efficacious, method is to make use of reply coupons, upon each of which is printed a key number or word, or the actual name of the journal. These coupons often have a more potent effect in inducing readers to reply to advertisements, and they render the advertiser free of reliance upon the reader introducing the key into the address. It has been found advantageous to use triangular rather than four-sided coupons, and to introduce

them upon the bottom outside corner of a page, so that they can be easily torn out or removed by one cut of the scissors. In trade advertisements manufacturers should not make use of obvious keys, nor manipulate the figures in their address in such a way as to disclose the fact that they have a checking system. If key words are introduced they should form a natural part of the address. It is useless to ask trade buyers to refer to a department bearing the initials of the medium in which the advertisement appears, for all business men are familiar with this old-fashioned method, and will often deliberately omit the use of such keys. A frequent practice in general Press advertising is to ask inquirers to mention the name of the journal in which the advertisement appears; but this method is untrustworthy, as relatively few people will go to the trouble of doing so.

Kinnimont Prize.—A testimonial presented to the late Mr. Alexander Kinnimont, Ph.C., in 1894 by Scottish pharmacists included the sum of £100, which, by his desire, was vested in trustees for the purpose of awarding annually a gold medal, books, or apparatus to the winner of the highest marks in a written examination in botany and physics. Assistants in Glasgow and the counties of Argyll, Ayr, Bute, Dumfries, Dumfries, Kirkcudbright, Lanark, Renfrew, and Wigtown who have passed the Qualifying examination two years before the date of examination are eligible, subject to certain conditions as to residence within the areas specified. The secretary is Mr. H. P. Arthur, 361 Victoria Road, Crosshill, Glasgow.

Kino is an astringent exudation from various trees. The juice is obtained by incisions, and is allowed to dry in the open air, in which it dries quickly, leaving a blackish shining extract like that of logwood. The kinds at present official are those of *Pterocarpus Marsupium* (N.O. Leguminosæ), which is obtained by making incisions in the tree, heating the exudation to boiling, and evaporating to dryness. It is usually distinguished as kino only, or Malabar kino. Another kino is official under the name of *Kino Eucalypti*, consisting of exudations from the stems of various species of eucalyptus. It should contain 80 per cent. soluble in water. In place of Malabar kino, Butea kino is permitted by the B.P. to be used in India and the Eastern divisions of the Empire. It is official under the name of *Butea Gummi*, and consists of the inspissated juice of the stem of *Butea frondosa*, Roscoe, which is a native of India. It contains only 40 per cent. soluble in water. The original kino imported into this country was sent from Gambia, in West Africa, by Dr. Fothergill, under the supposition that it was a kind of dragon's blood, but in 1757 he described it under the name of *Gummi rubrum astringens Gambiense*, the tree yielding it being called by the Mandingo natives "kano." It was regularly sold in London from 1776 to 1792. It proved to be the dried exuded juice of the bark of *Pterocarpus erinaceus*, Poir. But in 1800 cheaper substitutes were sent from Jamaica, the East Indies, and New South Wales, and that of Gambia fell into disuse. The African "kano" has at distant intervals been imported into this country under the name of kino, but having a bright brownish-black colour rather than the dead black of E.I. kino, it has not met with acceptance, being of unusual colour. There has always been some difficulty in pharmacy with kino, on account of the varying solubility of the drug in water and the tendency of the tincture to gelatinise. This was shown by E. White in 1903 to be due to the presence of an enzyme, unaffected by cold proof spirit of wine ("Year-Book of Pharmacy," 1903, p. 252), and may be killed by subjecting a freshly made tincture to the heat of a waterbath for half an hour. Advantage has apparently been taken of this knowledge, since the only *Kino Eucalypti* that can be depended on to make a non-gelatinising tincture is the red gum supplied by J. Bosisto & Co., of Melbourne. Presumably the juice, as soon as collected, is heated above the point of boiling water to dryness. It is common knowledge that one of the uses of kino is for "doctoring" cheap claret.

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A WINDOW-SHOW BONUS
of 3 doz. 25's

is given to Retailers who order 2 gross 25's (or equivalent in other sizes), provided they make a window-show. Show material free. This gives the retailer a P.A.T.A.

PROFIT of $102\frac{1}{2}\%$

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B.P. 1914

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OURY, MILLAR & CO.'s
PURE FOOD
(Complying with Latest Requirements)

GELATINES

PURITY, CLARITY, STRENGTH ALWAYS
CONSISTENT.

All grades of sheet, powder and
FINE LEAF GELATINES.

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GLYCERINE

The chemically pure glycerine supplied by us is
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PRECIPITATED CHALK.	Finest and lightest, also heavy grades.
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PERSULPHATES:	Ammonium, Potassium & Sodium.

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PHENACETIN. Powder and Cryst.

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PHENOLPHTHALEIN, white impalpable powder.

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PHENAZONE.

GUAIACOL CARBONATE.

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etc., etc.

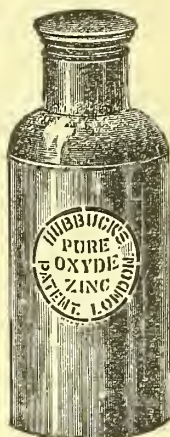
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Thos. Hubbuck & Son, Ltd.

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Clay, Dod & Co.
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Evans Sons Lescobar & Webb (Lim.)
Ferris & Co.
Gale & Co.
Glasgow New Apothecaries Co.
Goodall, Backhouse & Co.
Harker, Stagg & Morgan (Lim.)
Harkness, Beaumont & Co.
Hartick, W. & R., & Co.
Hirst, Brooke & Hirst.

Hodgkinson, Prestons & King
Horner & Sons
Huskisson, H. O., & Co.
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Silverides, R. B. G.
Smith, T. & L., (Lim.)
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Wilkinson & Simpson (Lim.)
Willows, Francis, Butler & Thompson (Lim.)
Woolley, Jas. Sons, & Co. (Lim.)
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Barry, E. J., New York
Finlay, Dicks & Co., New Orleans
E. Fougere & Co., 90/92 Beekman Street, New York
Chas. L. Hulsching, Inc., 5 Platt Street, N. York
Lehn & Fink, Inc., N. York

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Goods covered by Dangerous Drugs Acts offered subject to all regulations.

T. & H. SMITH L^{TD}

BLANDFIELD WORKS: 25 CHRISTOPHER STREET: 32 & 34 VIRGINIA STREET
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Speciality—
AMERICAN
BOTANICALS

All Crude Drugs

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SPICES

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LONDON, E.C.3.

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QUINIDINE
CINCHONINE
CINCHONIDINE

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SALTS

Sugar-coated Quinine Tablets and Pills.

Gelatine-coated Oval Pills.

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Samples, prices and particulars on application.

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Superior machinery and scientific control.

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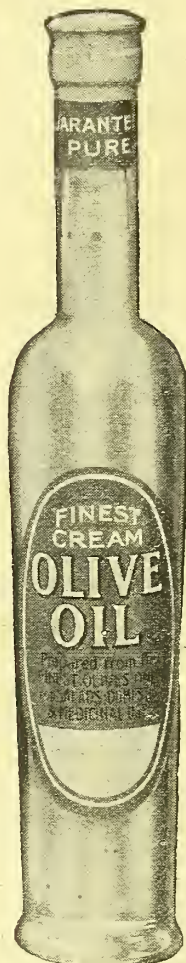
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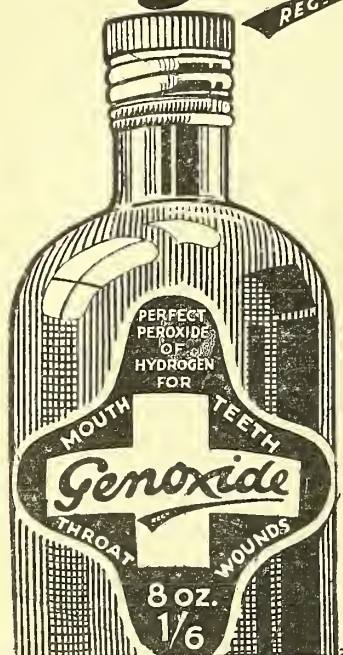
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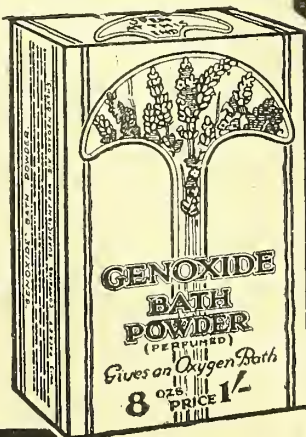
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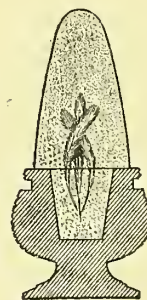
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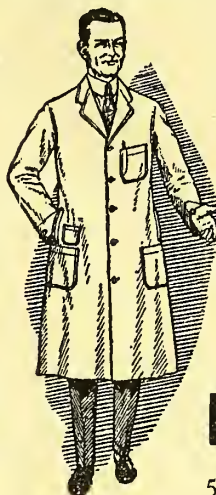
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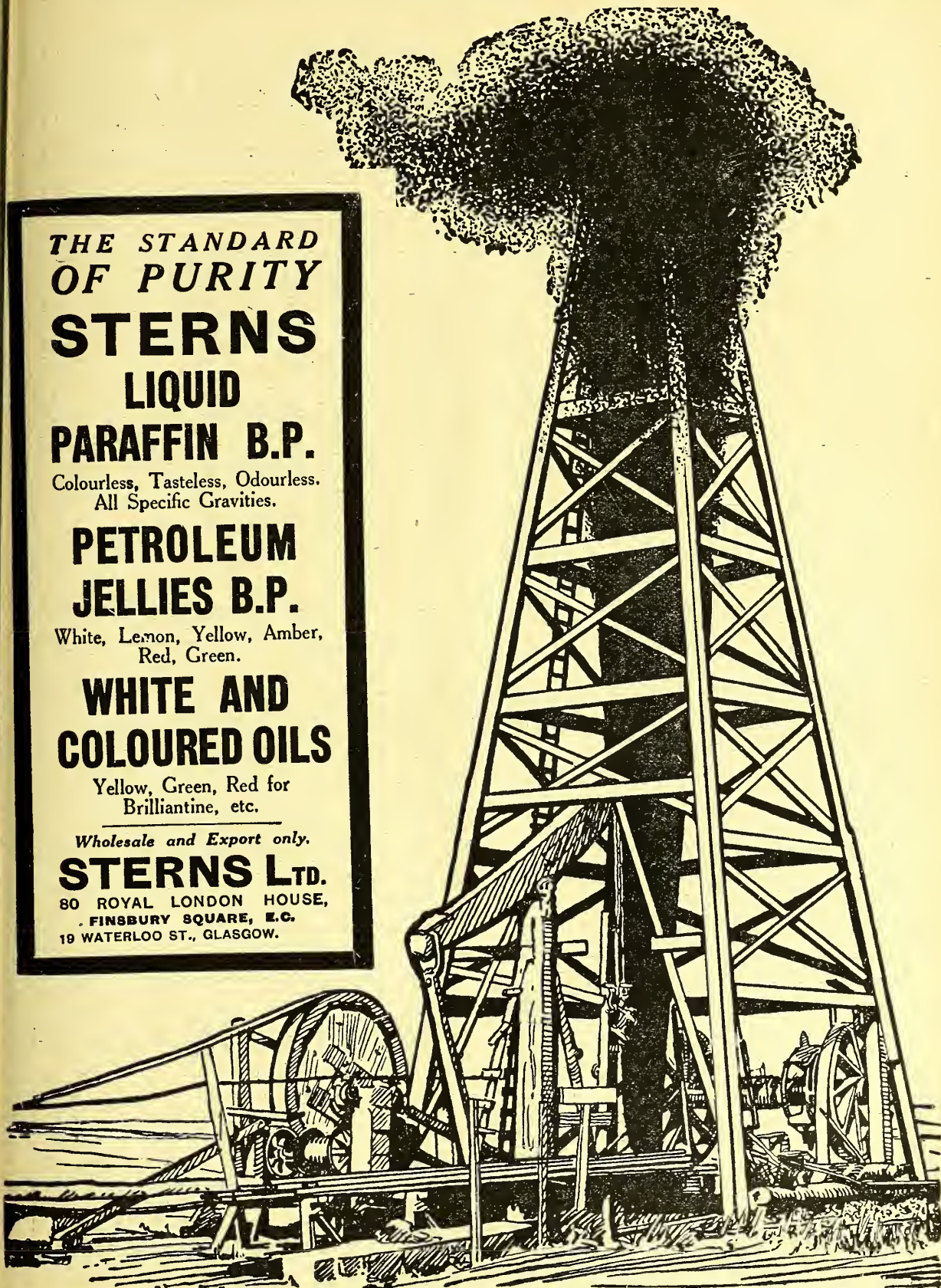
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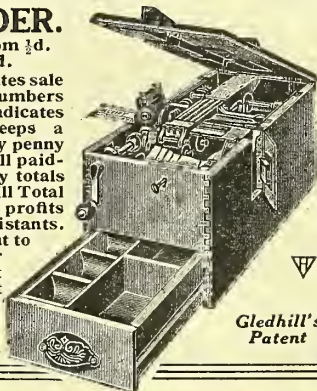
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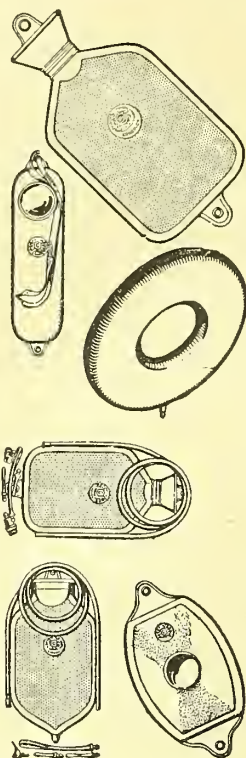
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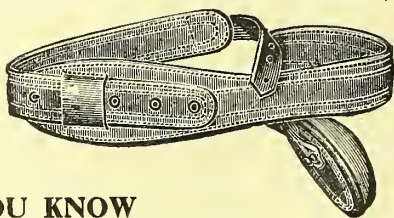
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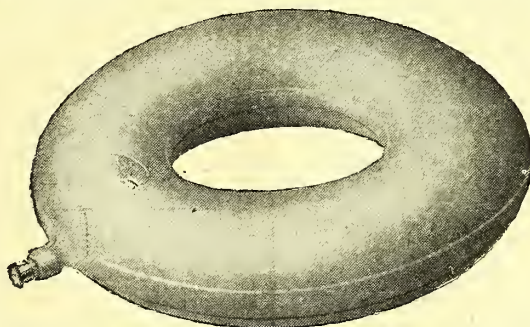
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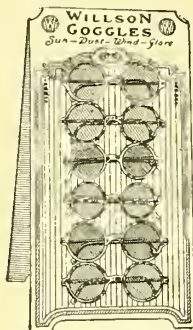
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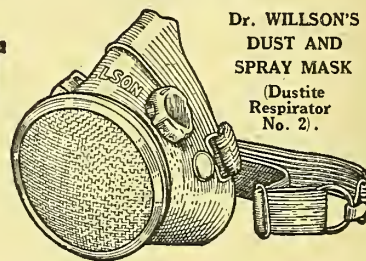


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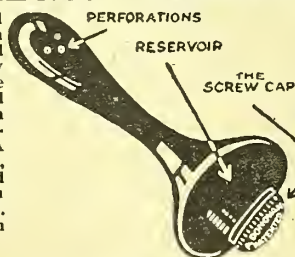
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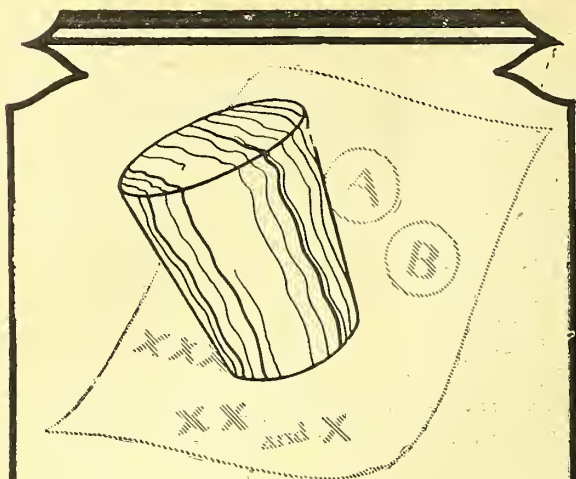
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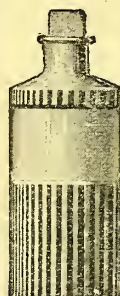
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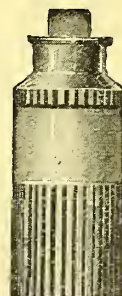
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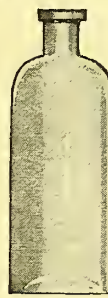
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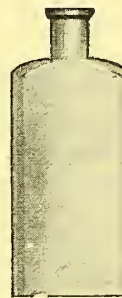
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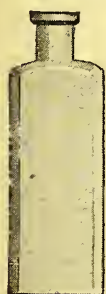
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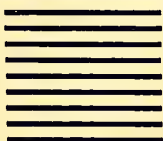
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